vizioncore™
A QUEST SOFTWARE COMPANY

vFoglight™ 5.2.6

User Guide

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Introduction to this Guide

This chapter provides information about what is contained in the *vFoglight User Guide*. It also provides information about the vFoglight documentation suite and Vizioncore.

This chapter contains the following sections:

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About vFoglight

vFoglight helps IT organizations understand the virtual infrastructure by managing the relationships and interaction between all the components in the environment, including data centers, data stores, clusters, resource pools, hosts and virtual machines. With vFoglight, administrators can quickly determine the root-cause of an incident or problem, track virtual machine (VM) movements and understand their impact, and identify contention for resources between virtual machines.

About this Guide

This User Guide provides configuration instructions, conceptual information and instructions on how to use the browser interface.

This guide is intended for any user who wants to configure vFoglight using the browser interface.

The User Guide is organized as follows:

Chapter 1, Getting Started with vFoglight—This section focuses on identifying the key screen elements in vFoglight as well as customizing vFoglight according to User Preferences, setting home pages and themes.

Chapter 2, Navigation in vFoglight—This section introduces the navigation tools used in vFoglight and understanding the concept of roles in vFoglight.

Chapter 3, Working with Dashboards—This section identifies the tools and techniques to work with dashboards as well as work with tables and charts.

Chapter 4, Working with Services and Alarms—This walkthrough instructs you on how to monitor services, examine service levels, and create a service. Details on viewing system-wide alarms for all monitored services is also provided.

Chapter 5, Monitoring Agents and Hosts—This section overviews the dashboards to monitor agents and hosts such as view active host details, browse and monitor hosts, and obtain host resource information.

Chapter 6, Monitoring the vFoglight Management Server—This section overviews monitoring vFoglight performance, such as cleaning up data objects, viewing server metrics and server details, viewing SQL database details, and viewing persistence handler details.

Chapter 7, Working with Applications—This chapter describes how to monitor and create an application.

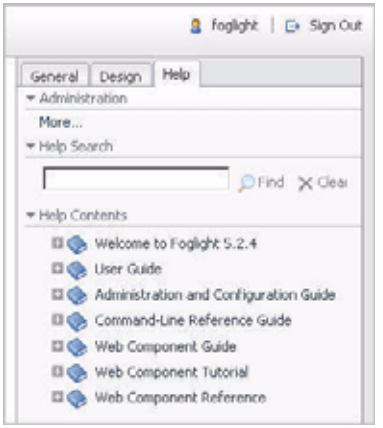
Chapter 8, Working with Reports—This chapter introduces the Reports dashboard and Report Manager dashboard. Reports can be created based on the supplied report templates or your own custom report. It also describes working with scheduled and generated reports, and the functions that are available to work with reports such as run a report, schedule a report, test a report template, and add a new schedule to the default report schedules list.

Chapter 9, Working with Data and Data Sources—This chapter introduces the Data dashboard and Data Sources dashboard that are primarily used by dashboard designers to examine data objects as well as choose a data source in vFoglight.

vFoglight Documentation Suite

The vFoglight documentation suite is made up of the core documentation set, plus the documentation set for each vFoglight cartridge that you deploy. Documentation is provided in a combination of online help, PDF and HTML.

- **Online Help:** You can open the online help by selecting the Help tab from vFoglight's action panel.



- **PDF:** The *Getting Started Guide*, *What's New Guide*, *System Requirements and Platform Support Guide*, *Installation and Setup Guide* set, *Administration and Configuration Guide*, *vFoglight User Guide*, *Command-Line Reference Guide*, *Web Component Guide*, and *Web Component Tutorial*, are provided as PDF files.

The PDF guides are included in the zip file downloaded from Vizioncore. Adobe® Reader® is required.

- **HTML:** Release Notes are provided in HTML.

Core Documentation Set

The core documentation set consists of the following files:

- *Release Notes* (HTML)
- *Getting Started Guide* (PDF)
- *What's New Guide* (PDF)
- *System Requirements and Platform Support Guide* (PDF)
- *Installation and Setup Guide* set (all in PDF format):
  - Installation and Setup Guide—*Installing on Windows with an Embedded MySQL Database*
  - Installation and Setup Guide—*Installing on Windows with an External MySQL Database*
  - Installation and Setup Guide—*Installing on Windows with an External Oracle Database*
- *Administration and Configuration Guide* (PDF and online help)
- *vFoglight User Guide* (PDF and online help)
- *Advanced Configuration Guide* set
  - *Command-Line Reference Guide* (PDF and online help)
  - *Web Component Guide* (PDF and online help)
  - *Web Component Tutorial* (PDF and online help)
  - *Web Component Reference* (online help)

Cartridge Documentation Sets

When you deploy a cartridge, the documentation set for the cartridge is installed. The online help for the cartridge is integrated automatically with the core vFoglight help. When you open the help, the name of the cartridge is displayed in a top level entry within the table of contents.

Some cartridges include additional PDF guides, which may be one or more of the following: a *Getting Started Guide*, an *Installation Guide*, a *User Guide*, and a *Reference Guide*.

Feedback on the Documentation

We are interested in receiving feedback from you about our documentation. For example, did you notice any errors in the documentation? Were any features undocumented? Do you have any suggestions on how we can improve the documentation? All comments are welcome. Please submit your feedback to the following email address:

info@vizioncore.com

Please do not submit Technical Support related issues to this email address.

Text Conventions

The following table summarizes how text styles are used in this guide:

Convention	Description
`Code`	Monospace text represents code, code objects, and command-line input. This includes: • Java language source code and examples of file contents • Classes, objects, methods, properties, constants, and events • HTML documents, tags, and attributes
`Variables`	Monospace-plus-italic text represents variable code or command-line objects that are replaced by an actual value or parameter.
Interface	Bold text is used for interface options that you select (such as menu items) as well as keyboard commands.
Files, components, and documents	Italic text is used to highlight the following items: • Pathnames, file names, and programs • The names of other documents referenced in this guide

About Vizioncore Inc.

Vizioncore was formed in July 2002 as a consulting and software-development company with the mission to create easy-to-use software solutions that performed reliable and repeatable automation of datacenter functions specifically for the Citrix platform. A main corporate goal was to enable business partners to offer solutions that targeted real-world IT issues and provided the best possible installation and automation for their clients' systems.

Vizioncore's solutions have proved successful in organizations from small to mid-sized businesses to large enterprises, in a wide variety of vertical industries, including Financial Services, Government, Healthcare, Manufacturing, and High Tech. Vizioncore, Inc. can be found in offices around the globe and at www.vizioncore.com.

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Web site: www.vizioncore.com

Refer to our Web site for regional and international office information.

Contacting Vizioncore Support

Vizioncore Support is available to customers who have a trial version of a Vizioncore product or who have purchased a commercial version and have a valid maintenance contract.

Vizioncore Support is easily accessed in the following ways:

- Email support directly at support@vizioncore.com for automatic case creation.
- Contact Vizioncore support directly via our global and local telephone numbers.
- Log and create/update your case, and check its status via the Vizioncore Support Case Management portal.

View the Vizioncore Support Guide for a detailed explanation of support programs, online services, contact information, and policy and procedures. The guide is available at:

http://www.vizioncore.com/SupportDocs/Vizioncore_SupportGuide1_SFS.pdf.

OR

Contacting Quest Support

Quest Support is available to customers who have a trial version of a Quest product or who have purchased a commercial version and have a valid maintenance contract. Quest Support provides around the clock coverage with SupportLink, our web self-service. Visit SupportLink at: *http://support.quest.com*.

From SupportLink, you can do the following:

- Quickly find thousands of solutions (Knowledgebase articles/documents).
- Download patches and upgrades.
- Seek help from a Support engineer.
- Log and update your case, and check its status.

View the *Global Support Guide* for a detailed explanation of support programs, online services, contact information, and policy and procedures. The guide is available at: *http://support.quest.com/pdfs/Global Support Guide.pdf*.

1

Getting Started with vFoglight

This chapter gives an introduction to the main dashboards and views in the vFoglight browser interface. It also describes the icons and other screen elements that you will see in most cartridges.

Note vFoglight displays dynamic data that is updated regularly. For this reason it is not recommended that you use your browser's Back and Forward buttons, as this may cause cached views to be displayed or result in an error message.

This chapter contains the following sections:

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Customizing vFoglight 24

Logging in to vFoglight

vFoglight runs in Internet Explorer 6 and 7 and Mozilla Firefox 2.0x and 3.0x. Your administrator will provide you with a link to the login page, where you enter your user name and password.

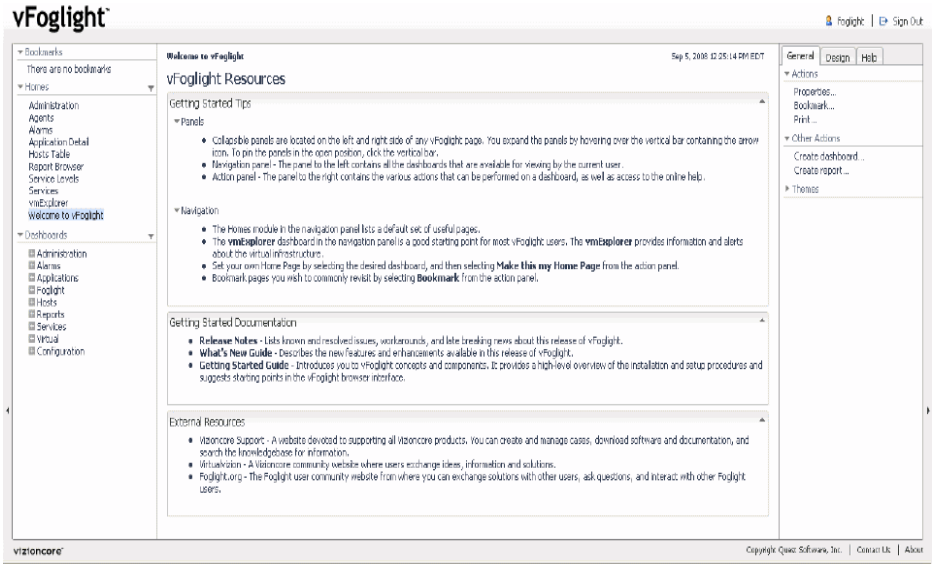
Introducing the Browser Interface

The following sections describe the main pages that you will see in a default installation.

Note Your administrator may have configured vFoglight so that the actual displays are different from those in this section. The following information is intended only as a general guide.

Welcome Page

The first time that you log in to vFoglight, the Welcome page is displayed.


vFoglight
Foglight | Sign Out
Bookmarks
There are no bookmarks
Homes
Administration
Agents
Alarms
Application Detail
Hosts Table
Report Browser
Service Levels
Services
vmExplorer
Welcome to vFoglight
Dashboards
Administration
Alarms
Applications
Foglight
Hosts
Reports
Services
Virtual
Configuration
Welcome to vFoglight
Sep 5, 2008 12:25:14 PM EDT
vFoglight Resources
Getting Started Tips
Panels
Collapsible panels are located on the left and right side of any vFoglight page. You expand the panels by hovering over the vertical bar containing the arrow icon. To pin the panels in the open position, click the vertical bar.
Navigation panel - The panel to the left contains all the dashboards that are available for viewing by the current user.
Action panel - The panel to the right contains the various actions that can be performed on a dashboard, as well as access to the online help.
Navigation
The Homes module in the navigation panel lists a default set of useful pages.
The vmExplorer dashboard in the navigation panel is a good starting point for most vFoglight users. The vmExplorer provides information and alerts about the virtual infrastructure.
Set your own Home Page by selecting the desired dashboard, and then selecting Make this my Home Page from the action panel.
Bookmark pages you wish to commonly revisit by selecting Bookmark from the action panel.
Getting Started Documentation
Release Notes - Lists known and resolved issues, workarounds, and late breaking news about this release of vFoglight.
What's New Guide - Describes the new features and enhancements available in this release of vFoglight.
Getting Started Guide - Introduces you to vFoglight concepts and components. It provides a high-level overview of the installation and setup procedures and suggests starting points in the vFoglight browser interface.
External Resources
Vizioncore Support - A website devoted to supporting all Vizioncore products. You can create and manage cases, download software and documentation, and search the knowledgebase for information.
VirtualVision - A Vizioncore community website where users exchange ideas, information and solutions.
Foglight.org - The Foglight user community website from where you can exchange solutions with other users, ask questions, and interact with other Foglight users.
General
Design
Help
Actions
Properties...
Bookmark...
Print...
Other Actions
Create dashboard...
Create report...
Themes
vizioncore
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The Welcome page contains helpful links to vFoglight Getting Started documentation and tips, vFoglight demonstrations, online help, and support links.

The Welcome to vFoglight page will remain your default home page unless you set a different home page. For instructions on changing your home page to a dashboard of your choice, see “Home Page” on page 27. The instructions are also on the Welcome to vFoglight page.

Screen Elements

This section describes the screen elements in vFoglight that you will see, regardless of which cartridges have been installed.

In addition to the display area and the two panels, a typical screen in vFoglight includes other elements, which are indicated in the graphic below.

Navigation Panel

The navigation panel contains all the dashboards that are available for viewing by the current user. You can expand a module and select a dashboard to view it in the display area. This panel also provides access to the administration and configuration pages.

Note If you do not see any dashboards in the navigation panel, the user you signed in as may not have been assigned to a group. For details, see “Understanding Roles in vFoglight” on page 34.

Action Panel

The action panel contains the various actions that you can perform on the current dashboard. It also contains views and data that you can add to a dashboard or report that you are creating and provides access to the online help files.

Subsequent logins display either:

- A home page that you have selected (for details, see “Screen Elements” on page 19).
- The first bookmark listed under Bookmarks; the default bookmark is the Welcome page (for details about creating bookmarks, see “Creating a Bookmark” on page 31).

Filter Icon

Select the Filter icon to filter by role to control which group role can access different parts of vFoglight. By using the Filter by role feature you can enable users to access a particular dashboard or homepage through role assignments.

To control user access according to role:

1. Click the Filter icon for the Homes or Dashboards.
2. In the Filter dialog, select the checkbox next to each role you want to assign access to the particular Dashboard or Home page.

3. Click **Apply**.

Note For more information on managing roles, see the vFoglight Administration and Configuration Guide.

Close Arrow

The Close arrow is used to conserve space on the display area. Click the arrows to:

expand the display area and collapse the navigation and action panels.

Header

The header contains the following icons:

Function	Description
Foglight	Click the product name to take you back to the Home page.
username	The user name of the current user.
Sign Out	Logs out the current user and reclaims all resources that it used in the current session. This is the recommended way to exit vFoglight, rather than just closing the browser.

Tabs

The following tabs are available in the action panel:

- **General** tab—contains a number of actions that you can perform on the current dashboard or report.
- **Help** tab—provides access to the online help files and a search field for the help.
- **Design** tab—available on any non-portal page to properly-authenticated users such as those with the dashboard designer role. The Design tab shows a hierarchical list of all views of a dashboard, definition details, and a context editor that is useful for debugging.

  When you select a particular view you can:

  - See the definition of the current view
  - Click **Inspect** to analyze the view in the definitions editor.
  - View the current run-time values that are available in the context for that view.

  Note Inspecting existing object types is accessible from the WCF designer. For more details on the dashboard definitions, see the Web Component Guide.

When you select Create Dashboard or Create Report, two more tabs appear:

- **Views** tab—contains a list of views that can be added to a dashboard or report that you are creating.

- **Data** tab—contains a list of data objects that can be displayed in chart or table format by dragging them into the display area.

Display Area

In the display area you can view current dashboards and reports, as well as create new or custom dashboards and reports. See “Creating a Custom Dashboard” on page 64 and “Creating a Custom Report Template” on page 201 for more information.

Note You can maximize the size of the display area by closing the navigation and action panels.

The example below shows two views and two metrics charts, which were dragged into the display from the Views and Data tabs in the action panel.

Footer

The footer contains the following links:

Copyright Vizioncore Inc.	Links to the copyright page on the Vizioncore web site.

Contact Us	Links to local contact information on the Vizioncore web site.
About	Displays product, contact, and support information.

Delete Icon

A bookmarked page provides easy access to navigation items. Click the Delete icon beside the bookmark to remove it. See Chapter 2, “Deleting a Bookmark in the Bookmarks view”.

Zonar and Time Range

vFoglight uses a bar chart to indicate the average of all collected metrics within the range of the zonar. See Time Range and Zonar in Chapter 3.

Time Range Freeze Control

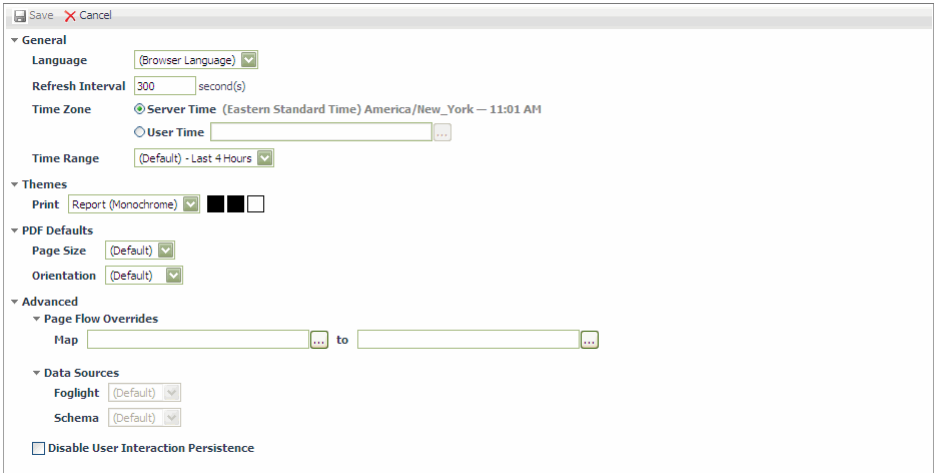
The Time range function enables you to freeze the vFoglight interface data at a specified time range. See “Freezing a time range” on page 40.

Customizing vFoglight

This section describes the areas where you can customize vFoglight according to user preference settings, home pages, and themes.

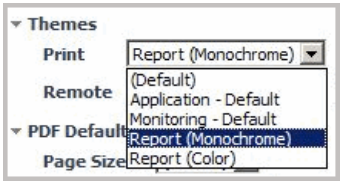
User Preferences

The User Preferences dashboard is under Configuration in the navigation panel. The options in this page enable you to change a number of settings in vFoglight. The choices you make here are saved with your user profile.



The following table describes the User Preferences settings.

Setting	Description or Options
Language	This setting controls the language that is used in the vFoglight browser interface. The default is the language set in the browser.
Refresh Interval	To ensure that the views display current data, vFoglight automatically refreshes the pages. This setting enables you to choose the length of the interval. The default is 300 seconds.
Time Zone	The time zone used in a vFoglight session is determined when you log in and is the local time zone for your server. You can use the User Time setting to choose another time zone.
Time Range	This setting controls the default time range for the views. The default setting is Last 4 Hours.

Setting	Description or Options
Themes	Themes are format settings that affect the look of dashboards and reports. You can override this setting for individual dashboard and reports using the Themes options in the action panel. For details, see “Themes” on page 27. You can only change the look of your PDF reports (Create PDF) in User Preferences. To change the theme used in generating (printing) reports to color, choose Report (Color) for the Print theme. 
PDF Defaults	These settings enable you to set the page size and orientation of PDFs.
Advanced	Page Flow Overrides: These settings override the pre-defined links between System views. For more information, see “Page Flow Overrides” on page 26. Data Sources: These settings determine the data source that vFoglight uses for data and schemas. Disable User Interaction Persistence: If you select this option, changes that you make in the vFoglight browser interface are not kept with your user profile.

Page Flow Overrides

System views are linked to each other through pre-defined configurations. In some cases, you may want to link a System view to a User view instead. The Page Flow Override option enables you to make this change. Every link on the page or view

indicated in the **Map** field that points to a target view will be redirected instead to the view indicated in the **To** field.

Caution This requires knowledge of how views are created, and should only be set by a view or dashboard designer. For more information, see the *Web Component Guide*.

Home Page

You can choose any dashboard to be your personal home page. Other dashboards can also be designated as home pages by a dashboard developer. These are listed under Homes in the navigation panel.

To set your personal home page:

1. Select a dashboard under **Homes** in the navigation panel on the left. Choose the dashboard that is most appropriate for your needs.
2. Click **Make this my home page** in the actions panel.

   The dashboard is listed under **Homes** in the navigation panel and will be the first page that is displayed every time you log in to vFoglight.

If you later choose another dashboard as your home page, it replaces the previous one.

Note You can have multiple homes. When you mark something as a home page, it becomes the default home and it is added to the list of possible homes. For example, if you add vFoglight Data Management as your home page, it is added to the default set of homes for your user role, and becomes your "current" home. If you log out and log back in, you will access vFoglight Data Management.

Themes

The Themes options allow you to control the look-and-feel for your UI such as the appearance of vFoglight dashboards and reports. You set these options in the User Preferences page, but you can override them by using the same options under Themes in the action panel.

The following table describes the options.

Option	Result
Application - Default	White background in all dashboards and views
Monitoring - Default	Dark blue background in all dashboards and views
Report (Monochrome)	Reports are printed in black and white
Report (Color)	Reports are printed in color

Note To print PDF reports in color, the theme must be changed in the User Preferences dashboard. Go to **Configuration > User Preferences** and choose **Report (Color)** for the Print theme. See “User Preferences” on page 24.

2

Navigation in vFoglight

This chapter provides an introduction to the navigation tools used in the vFoglight browser interface and also an introduction to roles.

This chapter contains the following sections:

Introduction to Navigation 30
Understanding Roles in vFoglight 34

Introduction to Navigation

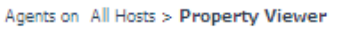
In addition to the navigation panel, other navigational aids are located in dashboards and views. These include:

- Data views (charts, tables, cylinders) provide links to more detail about the data that is selected (service > service detail) or to diagnose a problem (alarm > alarm detail).
- Selector views (trees, drop-down lists) allow you to change the context (domain, host, etc.) of what you are viewing.
- Navigation views (links box, labels) allow you to navigate from one part of the interface to another.

Note In addition to these types of links, vFoglight also displays additional information from within a view. For more information, see “Tooltips, Dwells, and Popups” on page 38.

Breadcrumb Trail

The name of the current view is displayed in bold letters at the top of the view:



If you move directly from one view to another, the names of the previous views are displayed in a breadcrumb trail. The names are links back to the previous views and are displayed as non-bolded text.

Caching

vFoglight displays dynamic data that is regularly updated. For this reason it is preferable not to use your browser’s navigation buttons, as this may display cached views or result in an error message. Use the links in the display area instead.

vFoglight remembers where you have been by display area. If you leave a dashboard and then return to it, you see the last view that was displayed.

Note This tracking is based on your user ID and is saved on the server.

Table Links

Content in tables can be links to views. For example, in a table that contains a list of hosts, each host name may be a link to a page with more information about that host.

Tables also have icons and functions for sorting, paging, and filtering. These are discussed in “Working With Tables” on page 79.

Icon Links

Icons may be links to other views or dashboards. Linked icons and non-linked icons look the same. When you move your mouse over a linked icon, the pointer changes to a hand. For more information, see “Icons” on page 82.

Bookmarks

Bookmarks are useful for keeping track of dashboards and views that you intend to revisit or access quickly, without having to drill down several levels. A bookmark can be a snapshot of data that is “frozen” at a specific point in time, or it can be updated with current data when you access it. For example, you can create a bookmark to quickly access a specific drilldown or view to be saved for viewing later such as the System Overview on a particular host last Wednesday.

The Bookmarks section of the navigation panel lists all the bookmarks that you have created. When you select a bookmark, it appears in the display area. You can then do the following:

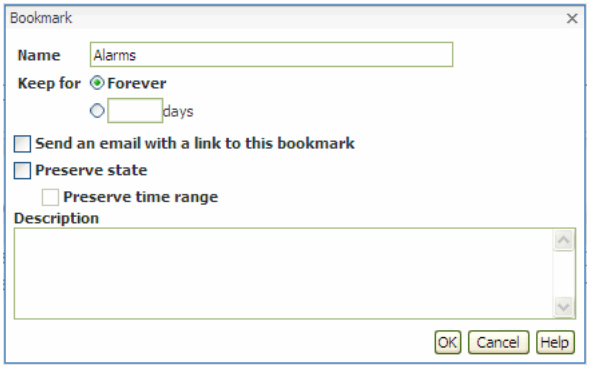
- email a link to this dashboard
- make it your home page
- print it

Creating a Bookmark

To bookmark a dashboard:

1. Locate and display the dashboard that you want to bookmark.
2. In the action panel, select **Bookmark**.

   The Bookmark dialog appears.



3 Type a unique name in the **Name** field.

4 Select one of the **Keep for** options to indicate whether you want to keep the bookmark indefinitely or for a specified number of days. If you choose the latter, type the number of days in the text field.

5 Select **Send an email with a link to this bookmark** if you want to send someone a link to the new bookmark.

6 Select **Preserve state** if you want to keep the context input of the dashboard.

For example: At the time when you bookmark a dashboard, it has a drop-down in which HostX is selected. When you later view the bookmarked dashboard, HostX will still be selected.

7 If you have selected Preserve state, the **Preserve time range** check box becomes available. Select this check box if you want to keep the bookmark's current start and end times. Otherwise, if the time range is relative (e.g. Last 24 Hours), the bookmarked view will show metrics for the default time period when you display it.

8 Type a description; this is optional.

9 Click **OK** to save the bookmark.

10 If you selected the email option in step 5 above, an email window opens, containing a link to this bookmark. Complete the required fields and click **Send**.

The new bookmark is now listed under Bookmarks at the top of the navigation panel.

Viewing a Bookmark

To display a bookmarked dashboard, expand the Bookmarks area in the navigation panel and select the bookmark you want to display.

Emailing a Link to a Bookmark

This option is also available when you create a bookmark.

To email a link to a bookmark:

1. In the Bookmarks area of the navigation panel, select a bookmark to display it.
2. Select **Email** from the action panel.

   An email window opens, containing a link to the bookmark.
3. Fill in the required information and click **Send**.

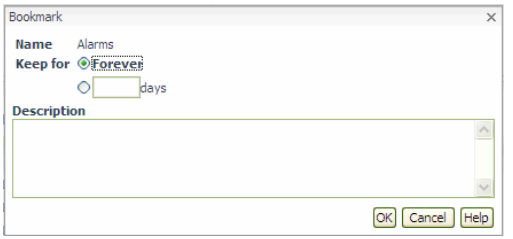
Changing Bookmark Properties

You can change the expiry time and the description of an existing bookmark.

To change the properties of a bookmark:

1. In the navigation panel, select the name of a bookmark you want to edit.
2. In the action panel, click **Properties** to open a drop-down menu.
3. Select **Edit bookmark properties** under Actions.

   The Bookmark dialog appears.



4. Make your changes and click **OK**.

Deleting a Bookmark in the Bookmarks view

You can remove a bookmark in the navigation panel.

To delete a bookmark in the navigation panel:

1. Place the cursor over the delete icon beside the name of the bookmark.

   The icon turns red.
2. Click the delete icon .

3 On the confirmation dialog, click **Delete** to delete the bookmark.

Understanding Roles in vFoglight

vFoglight controls access to dashboards and views by means of roles. A vFoglight administrator assigns users to groups and then assigns roles to those groups. When you try to access a dashboard or view, the roles of the groups to which you belong are matched against the relevant roles and the allowed roles that were set for that dashboard or view.

Relevant roles control which dashboards and views are listed in the navigation and action panels. Allowed roles control which dashboards and views a group can access, whether or not they are listed in the panels. If a view has no relevant roles marked, vFoglight assumes it is relevant to all roles. If a view has no allowed roles marked, vFoglight assumes that all roles are allowed to see it.

To illustrate how roles work, suppose you belong to a group that has been assigned the roles of Advanced Operator and Dashboard User. When you log in to vFoglight, the navigation panel lists only the dashboards for which those roles are relevant roles. In some dashboards, one or more views may not be available because your roles have not been set as allowed roles for them.

You can filter the dashboards that are listed in the navigation panel by clicking the filter icon to the right of Dashboards or Homes to display a list of relevant roles, de-selecting one or more roles, and clicking **Apply**.

The roles that are built in to vFoglight are designed to have the following permissions:

Role	Permissions
Dashboard User	Access to basic dashboards.
Operator	Access to basic dashboards. Operators can also access dashboards like Services, Agents, and Host Table.
Advanced Operator	Extends Operator to include administrative dashboards like the Service Builder and the Application Builder.
Dashboard Designer	Access to the dashboard design options available under **Configuration** > **Definitions**.

Role	Permissions
Cartridge Developer	Ability to load cartridges, create rules and derived metrics, and perform other tasks related to creating a cartridge.
Administrator	Access to all administrative functions, particularly the ability to deploy, create, and control agents.

See the *vFoglight Administration and Configuration Guide* for additional information on users, groups and roles.

3

Working with Dashboards

This section describes how to work with vFoglight dashboards, and provides a description of the common elements that are found on most dashboards.

Note For information about the options in the Administration module, see the *Administration and Configuration Guide*.

For information about the Definitions dashboard, see the *Web Component Guide*.

For information about cartridge dashboards, such as the dashboards for the Cartridge for Operating Systems, see the User Guides for those cartridges.

This chapter contains the following sections:

Introduction to Dashboards 38

Common Views 46

Creating a Custom Dashboard 64

Viewing Dashboard Properties 77

Working With Tables 79

Printing Views 80

Introduction to Dashboards

vFoglight displays monitoring data in views that group, format, and display it.

Dashboards are top-level views that do not need to receive data from other views. Dashboards usually contain a number of lower-level views. The dashboards supplied with vFoglight, as well as those created by users, are available in the navigation panel.

Lower-level views in vFoglight can be added to dashboards or can be accessed by drilling down from a dashboard. They receive and display data directly from the vFoglight Management Server or from other views. Some views filter or select data that appears in other views in the same dashboard. Some are tree views with expandable nodes for selecting servers, applications, or data.

Display Functions

vFoglight provides various ways in which you can modify a view or display the data in a different format. For example, you can select metrics, select a data object to update a view, or change the time range. These functions are available as drop-down lists or table filters, in dialogs, or through menus.

This section describes the following functions that you can use to modify a view:

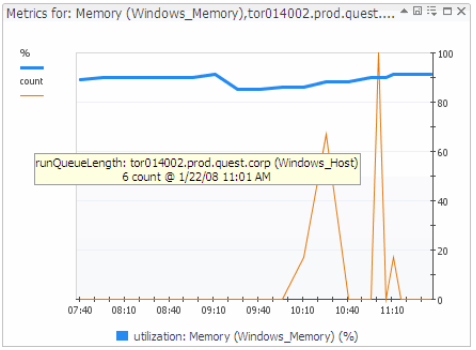
- "Tooltips, Dwells, and Popups" on page 38
- "Time Range" on page 39
- "Splitter" on page 44
- "Columns" on page 44
- "Drop-Down Lists and Trees" on page 44

Tooltips, Dwells, and Popups

Different types of smaller views provide additional detail about an element in a view. Examples of these views are:

- A tooltip element describes what it represents when you hold the cursor over a status icon. Tooltips also appear when you hold the cursor over a line in a chart.
- A dwell displays additional information about the item when you hold your cursor over a line in a table.
- A popup displays additional information and options if you click a line in a table.

Tooltips and dwells disappear when you move the mouse, but a popup remains open until you close it by clicking outside it or clicking the close icon in the corner. You can also maximize some popups by clicking the maximize icon in the upper right corner.



Time Range

The time range at the top of a dashboard indicates the current time range for all the views on the page. If some of the views have independent time ranges, the time range is not displayed.

By default, the time range in a dashboard is displayed in real time. You can “freeze” the time range so that the views are fixed at a certain range. This is helpful for diagnostic purposes when you do not want to receive new data. For further details, refer to “Freezing a time range” on page 40.

Changing the time range in a dashboard affects all the views in the dashboard. If an individual view in a dashboard has a different time range, that takes precedence over the time range for the dashboard.

Clicking the time range opens a menu where you can select another time range or select Custom to specify a range.

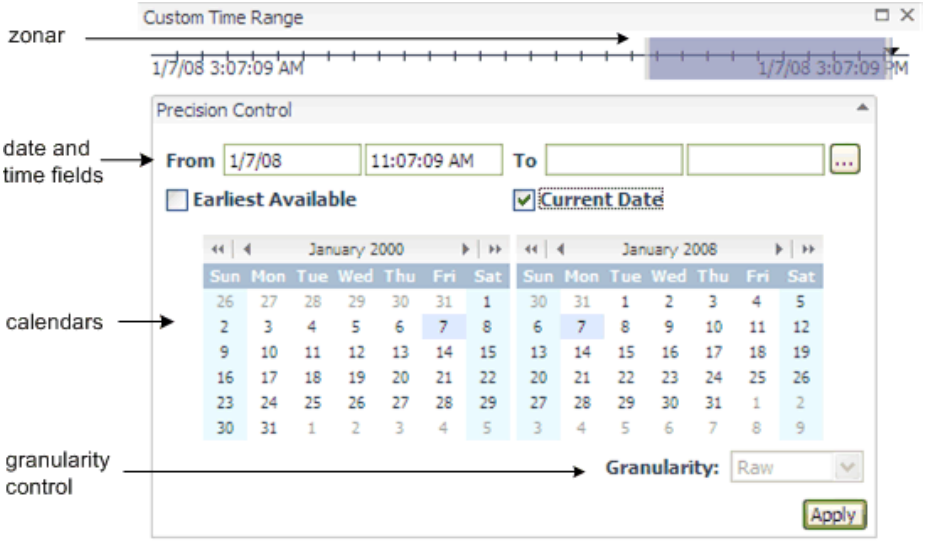
Standard Time Ranges

The time range menu lists the standard ranges. When you select one of these options, all the views in the dashboard are automatically updated, unless they were created with a time range other than the global one.

Custom Time Ranges

To set a specific time range, you select Custom from the time range menu to open the Custom Time Range dialog. Initially, only the Zonar is displayed. Clicking the down-

arrow beside Precision Control expands the dialog to display the Precision Control options. Clicking the browse button … to the right of the date fields displays the calendars.



The Precision Control section contains the following settings:

- From and To date and time fields (see page 43)
- Earliest Available and Current Date check boxes (see page 43)
- Calendars (see page 43)
- Granularity options (see page 43)

Except for granularity, changing any of these settings automatically updates the views.

The time range for a summary view is likely to be different from the time range for a detail view. Therefore, the time range that you select affects only the current view and drill-downs from it; it does not affect higher-level views.

Freezing a time range

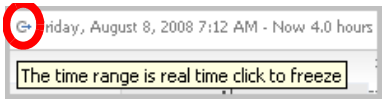
By default, the time range on a dashboard is displayed in real time. You can tell this at-a-glance if the word *Now* is shown in the time range display.

You can disconnect from real time and “freeze” a dashboard at a specified time range. When this occurs, the views on the dashboard will not receive any new data.

To freeze a time range:

1. Select the dashboard for which you want to freeze the time range.
2. Click the icon to the left of the displayed time range at the top right of the dashboard.

   Tip When you hover over the icon a popup indicates if the time range is real time or frozen:

   The time range is set and the icon changes to .

   Hover over the icon to display the message: *Time range is in the past, click to switch to real time*.
3. If you later refresh a dashboard, you may notice that the time range remains fixed even though the time that is displayed in the Zonar changes. For example, in the screen shot below, the time range ends at 9:50 while the current time is 10:12.

To unfreeze a time range:

- Click the icon.

  The time range changes to end at the last monitoring time range that you used (for example, the last four hours).

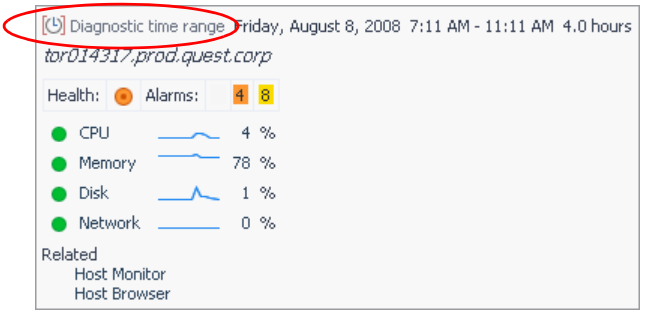
Diagnostic Time Range

In vFoglight versions 3.0, if you drilled down the path for an old alarm, all of the drilldowns applied to the current time, not the time that the alarm occurred. In versions 3.0.1 (or later), the time-sync function called the diagnostic time range was added to drill-downs.

The diagnostic time range shows a 4 hour window, where the alarm time range is placed 3 hours into the window (e.g. 3 hours prior and one hour past the alarm). The diagnostic time range stays frozen until you unfreeze (toggle) the time range.

The diagnostic time range function works as follows:

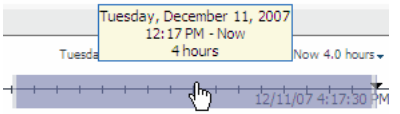
- For any alarm that is not in the current time range, if you click on a drill down, places you into a diagnostic time range.
- Some drill-downs indicate that you are in diagnostic time range as shown in the dialog box below.



Note The diagnostic time range function is not available for all drill-downs.

Zonar

At the top of the dialog is a sliding bar called the Zonar. When you place your mouse over the bar, a popup displays the current date, time, and time range.



Click in the middle of the range to drag the Zonar to the left or the right. The start and end times of the range changes, but keeps the same time period. You can increase or decrease the time period by dragging the sides of the range. As you drag, the popup displays the new range.

As you drag the edges of the range, the Zonar scale automatically adjusts, increasing or decreasing the units of time. For example, in the above screen shot, the time range is four hours. If you drag the left edge of the range as far as you can, the range increases by about eight hours. When you stop dragging, the scale automatically adjusts and you can then drag the edge further.

If you drag the right edge of the range when the time range is in real time (the word *Now* is shown in the time range display), the range will persist for the duration (for example, 4.5 hours) and not to the specific date/time to which it was set.

Precision Control

The Precision Control section is collapsed when the dialog opens. To display it, click the down arrow to the right of **Precision Control**.

Date and Time Fields

Type specific dates and times for the range. If you enter an incorrect date or time, a red exclamation mark is displayed at the right of the field and you cannot apply the changes. You can also use the Earliest Available or Current Date check box to set the time range.

Calendars

If you prefer to use a calendar to select dates, click the browse button to the right of the date and time fields to display start-date and end-date calendars.

Granularity

Granularity controls the size of the metric intervals. The default option is Raw, which displays the actual collected data points. The Auto option uses intervals that are sized according to the time range. For example, a one-hour range has five-minute intervals, while a one-week range has one-hour intervals. If you choose an option other than the default, click **Apply** to update the views.

Caution If you set too large an interval, there may not be enough points to plot on a chart. For example, if you only have one day of data, an interval of six months will result in a single point. If an interval is too small, there may be too many data points to display if the chart is small.

The maximum and minimum values of a metric are actual numbers, while data points inside an interval are averaged. Agents may report their data at uneven intervals. vFoglight sets the data to be plotted in evenly-spaced intervals using data collected from any number of agents.

To do this, the data points inside the interval are averaged. This has the effect of evening out the maximum and minimum values if an interval contains more than one real data point. The maximum and minimum values of a metric are based on real data and not an averaged value. These values are often plotted as markers on the chart. Therefore the averaged values on the plotted curve or bar may not match the real values of the markers.

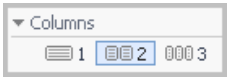
Splitter

Composite views may have a moveable bar, or splitter, between the two views. It can be either horizontal or vertical. You can move it back and forth to resize the views on either side.

The splitter has two arrows facing in opposite directions. When you click an arrow, the view it is facing collapses, the splitter moves to the edge of the remaining view, and only the other arrow is visible. You can restore the hidden view by clicking the other arrow.

Columns

When you are creating a custom dashboard or report, you can choose one of the options under Columns under the General tab in the action panel to divide the display area into one, two, or three columns.



Drop-Down Lists and Trees

Drop-down lists are views that change the context of other views, such as those in the same container view. When you select an item from a drop-down list, the view is refreshed with new data. For example, a view may contain a drop-down list of metrics, a chart, and a table. Selecting a different metric changes the context of the page, and the chart and table are updated accordingly.

A drop-down list displays a list of single options. A tree expands to display a hierarchy of options. They have the same effect on the context.

Customizer

The Customizer icon is available for charts and tables.

Note To access the customizer it needs to be enabled. Customizers are not enabled by default.

If the Customizer icon is enabled you can:

- Change the chart type dynamically. See “Changing the Chart Type” on page 69.
- Export charts and tables to PDF or CSV format. See Exporting Data from Charts and Tables.

Exporting Data from Charts and Tables

The option to export data to CSV and PDF format is available for charts and tables.

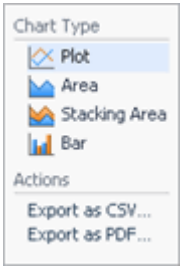
For example, you can create new graphs using drag and drop metrics onto a dashboard, and then export the data to CSV output. Therefore, you can create multiple metrics, set a time range, export to CSV, and then open the data in Excel.

To export charts to CSV or PDF format:

1 Navigate to the chart or table you want to export.

1 Click the Customizer icon in the top right hand corner of the table or chart.

2 Choose either **Export as CSV** or **Export as PDF**.



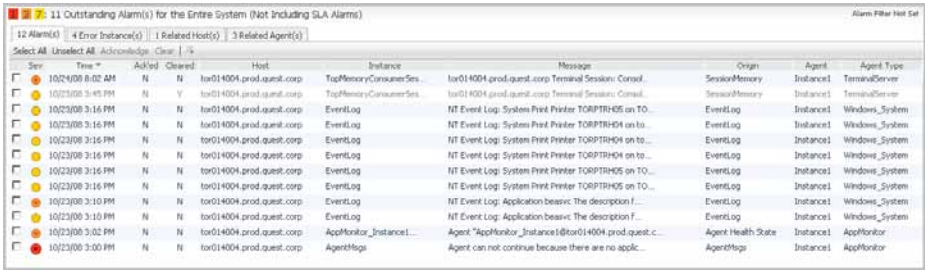
3 If you chose **Export as CSV**, choose if you want to open or save the file.

Common Views

vFoglight makes use of common views in most of the standard dashboards. Using common views in pre-declared dashboards is an effective way to enable and create easy workflows. Examples of views used in most of the dashboards include the Alarm list display and the Host summary display.

Alarm List

When a list of alarms is shown, the same alarm list view appears as a popup or fixed path depending on the navigation path.


11 Outstanding Alarm(s) for the Entire System (Not Including SLA Alarms)
12 Alarm(s)
4 Error Instance(s)
1 Related Host(s)
3 Related Agent(s)
Select All Unselect All Acknowledge Clear

The Alarm list view displays a summary of alarms by severity level at the top. The counts in the title are for outstanding alarms. The Outstanding Alarms view shows Ack'ed and Cleared columns containing a Y (Yes) or N (No) to indicate the Acknowledgement status. While the Alarms list also shows cleared alarms, the cleared alarms are not included in the count for outstanding alarms. Cleared alarms appears dimmed out. Cleared alarms can be filtered out. You can also apply a filter to the alarm list using other criteria, as described in "Filtering the Alarms View" on page 50.

Managing Alarms

You can select an individual alarm and once selected, choose to take action on the alarm that has been fired such as **Acknowledge** or **Clear**. For further information, refer to either "Acknowledging an Alarm" on page 51 or "Clearing an Alarm" on page 53.

The Alarm list view allows you to choose from four different perspectives on alarms:

- Current Alarm(s)
- Error Instance(s)
- Related Host(s)

- Related Agent(s)

Current Alarm(s)

By default, you see the list of alarms with the ability to sort the alarms by different elements (Severity, Time, Ack'ed, Cleared, Host, Instance, Message, Origin, Agent, Agent Type).

Error Instance(s)

The Error Instances option lists the agents containing data that triggered an alarm in the Outstanding Alarms table. For each error instance triggered, it indicates its state of health, number of each type of alarm, and its health history.

In the example shown below, the alarms are grouped according to their source (Long Name).

Drilldowns

The following drilldowns are available from the Alarm Source(s) table.

Select	To
Long Name	see the "Instance" on page 54. If you select an agent, you also are notified if the agent is running and the overall health state of the agent (Broken or OK).
Health icon	see links to: • health of all alarm sources • health of current alarm source • all outstanding alarms for that alarm source
Alarms	see a list of alarms for that alarm source

Select	To
Health History	Hover over the Health History bar to see the percentage and duration of time that the alarm source was at a certain severity level.

Related Host(s)

A convenient way to isolate issues related to systems is to show the alarms organized by the originating host. You can expand each host to see the source of the alarm. In the example below, all alarms are coming from a single host instance.

Drilldowns

The following drilldowns are available from the Related Host(s) table.

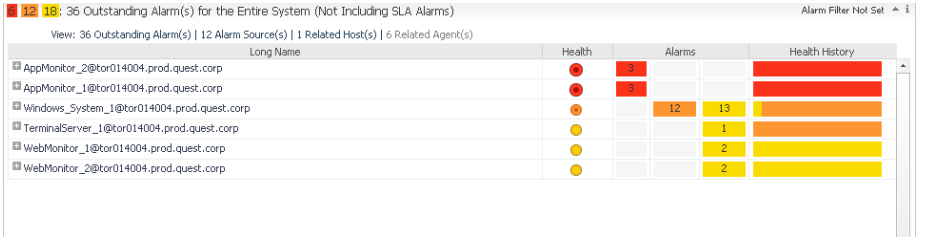
Select	To
Long Name	see the "Instance" on page 54. If you select a host, the Host Summary as described on page 62 is displayed. If you select an agent, you also see if the agent is running and the overall health state of the agent (Broken or OK).
Health icon	see links to: • health of all alarm sources • health of current alarm source • all outstanding alarms for that alarm source
Alarms	see a list of alarms for that alarm source

Hover over the Health History bar to see the percentage and duration of time that the alarm source was at a certain severity level.

Related Agent(s)

A useful way to understand which agent is causing an alarm to fire is to show alarms organized by the agent that collected the data. You can expand each agent node to see where the agent is gathering data.

The example below shows that the Application Monitor agent is firing fatal alarms and critical alarms are coming from the Windows System agent.



Drilldowns

The following drilldowns are available from the Related Agent(s) table.

Select	To
Long Name	see the "Instance" on page 54. If you select an agent, you also are notified if the agent is running and the overall health state of the agent (Broken or OK).
Health icon	see links to: • health of all alarm sources • health of current alarm source • all outstanding alarms for that alarm source
Alarms	see a list of alarms for that alarm source

Hover over the Health History bar to see the percentage and duration of time that the alarm source was at a certain severity level.

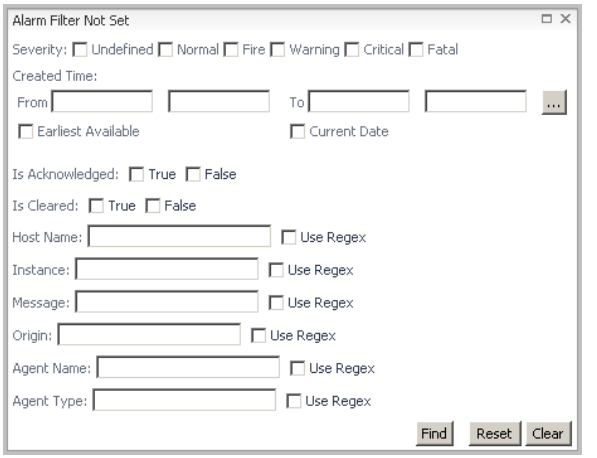
Filtering the Alarms View

You can filter the list in the Outstanding Alarms view using one or more of the following criteria:

- Severity (Undefined, Normal, Fire, Warning, Critical, Fatal)
- Time (range, earliest available, current date)
- Is Acknowledged (true or false)
- Is Cleared (true or false)
- Host name
- Instance
- Message
- Origin (source of an alarm)
- Whether or not the alarm has been acknowledged (True or False)
- Agent name
- Agent type

To filter the alarm list:

1. Click **Alarm Filter Not Set** in the title bar of the view. (If a filter has already been set, the link will say **Alarm Filter Applied**.). The Alarm Filter Not Set/ Applied dialog opens.



2. Select or enter your filter criteria. If you want to use a calendar to choose a date or date range, click the browse button to display two calendars. The dates that you choose in the calendars appear above in the **From** and **To** fields.
3. If applicable, select the **Use Regex** checkbox to search for a regular expression (regex). Regex is a special text string that describes a search pattern using wildcards. For example: .*\.txt$
4. Click **Find**.

   The table refreshes to display the filtered alarm data.

Hiding Columns in the Alarms View

You can hide any of the columns in the Outstanding Alarms view.

To hide columns:

1. Click the edit icon ( ) above the table.

   A popup displays a list of the columns in the table.
2. De-select the columns that you want to hide and click **Apply**.

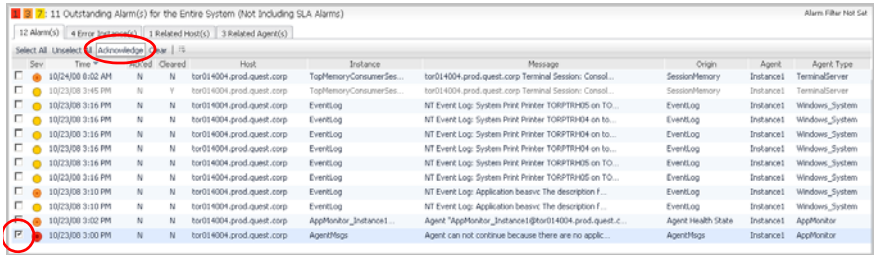
   The de-selected columns are removed from the table.

Acknowledging an Alarm

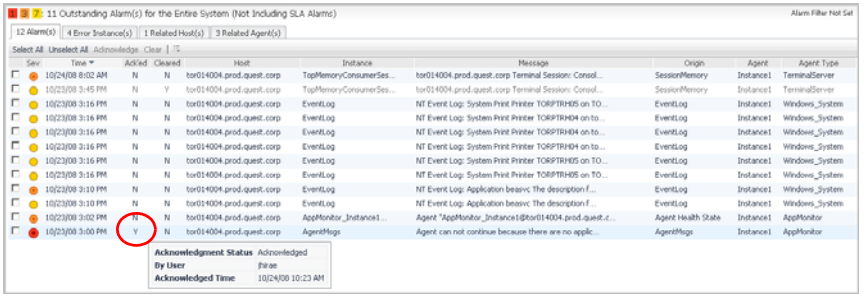
The Ack'ed and Cleared columns in the Outstanding Alarms view indicates if an alarm has been acknowledged. If an alarm has not yet been acknowledged, the column displays N. When you acknowledge an alarm, the column appears with a Y. The name of the person who acknowledged it is also indicated. This information is also stored in an audit report. You also have the option of adding a note (see "Alarm Notes" on page 58) to indicate an alarm has been acknowledged.

To acknowledge an alarm:

1. In the Alarms view, select the alarm(s) in the alarm table that you want to acknowledge.
2. To acknowledge the alarm from the Outstanding Alarms list, click **Acknowledge** at the top of the table:



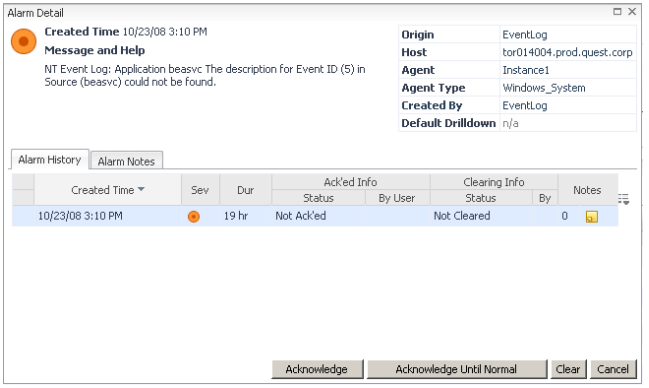
The Alarm status in the Ack'ed column changes to Y to indicate the alarm has been acknowledged. If you hover over the Y, your user name appears in the By user column for that alarm.



Note Alternatively, you can acknowledge an alarm using the Alarm Details dialog box.

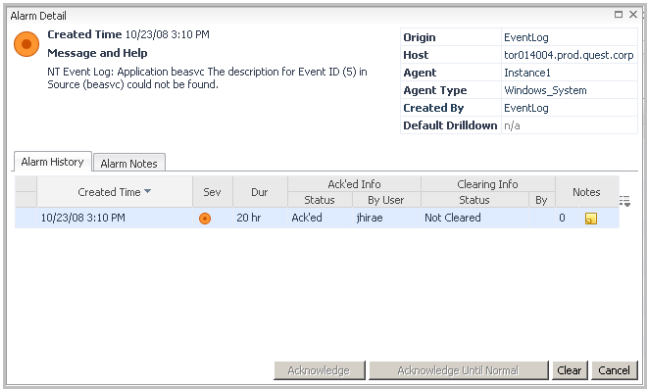
a In the Outstanding alarms view, click **N** beside the alarm that you want to acknowledge.

The Alarm Details dialog box appears.



b Click **Acknowledge**.

Your user name appears in the Ack'ed column for that alarm. The Alarm status in the Ack'ed column changes to Y to indicate the alarm has been acknowledged.



If you want to acknowledges the current alarm and all consecutive alarms fired by the same rule on the same instance, click **Acknowledge Until Normal**. This option is available to an outstanding (not-yet-cleared) alarm only.

You can also apply a note to alarm. See "Alarm Notes" on page 58.

Clearing an Alarm

The Alarms table list all alarms including cleared alarms in a given time range. Cleared alarms are shown by default. You can filter out cleared alarms using the alarm filter. See "Filtering the Alarms View" on page 50.

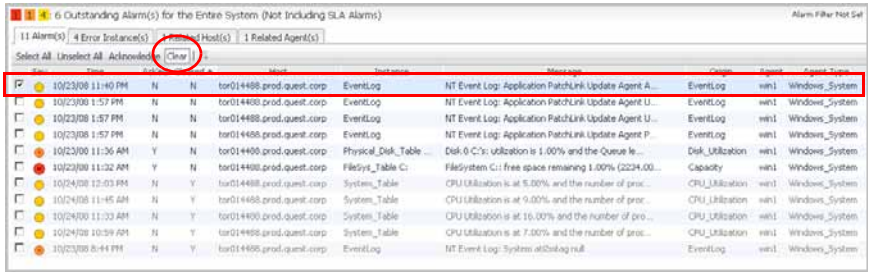
As a visual cue, cleared alarms appear dimmed out. This applies to all alarms that are cleared regardless of the time range. You can add a new note (see "Alarm Notes" on page 58) or acknowledge an alarm (see "Acknowledging an Alarm" on page 51), even though it is cleared. The Cleared column in the Outstanding Alarms view indicates the status on whether a cleared alarm was not acknowledged (N) or the cleared alarm has been acknowledged (Y).

If the same condition that caused the alarm to fire occurs again in the next sampling interval, the alarm will reappear in this table.

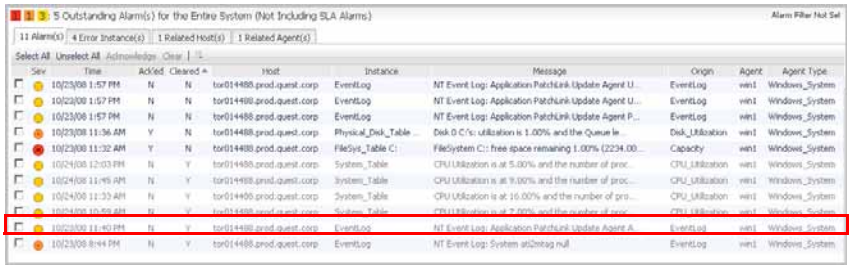
To clear an alarm:

1 In the Outstanding Alarms view, click the check box beside the alarm that you want to clear.

2 Click **Clear** above the table.


6 Outstanding Alarm(s) for the Entire System (Not Including SLA Alarms)
Alarm Filter Not Set
11 Alarm(s)
4 Error Instance(s)
1 Related Host(s)
1 Related Agent(s)
Select All Unselect All Acknowledge Clear

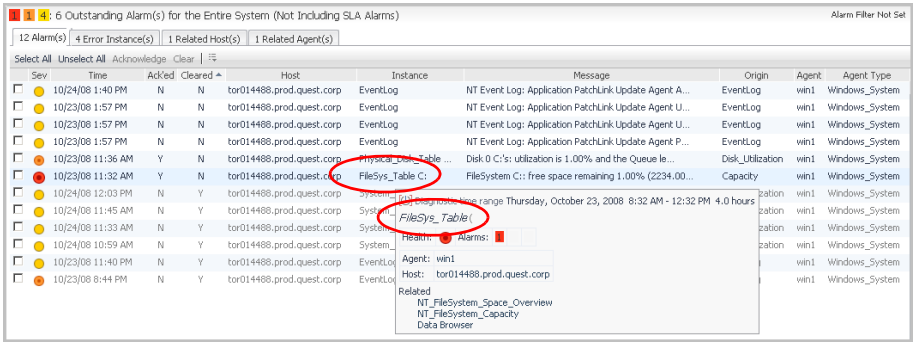
The Alarm Status in the Cleared column changes to indicate the alarm has been cleared and the cleared alarm is dimmed out. The alarm is removed from the count for outstanding alarms.


5 Outstanding Alarm(s) for the Entire System (Not Including SLA Alarms)
Alarm Filter Not Set
11 Alarm(s)
4 Error Instance(s)
1 Related Host(s)
1 Related Agent(s)
Select All Unselect All Acknowledge Clear

Alternatively, you can clear an alarm from the Alarms Details dialog box.

Instance

When you select the instance of the alarm (e.g. in the Alarm list when looking at a list of Outstanding alarms, or when looking at alarms grouped by Alarm source), a common health summary for the data that triggered the alarm appears:


1 1 4: 6 Outstanding Alarm(s) for the Entire System (Not Including SLA Alarms)
Alarm Filter Not Set
12 Alarm(s)
4 Error Instance(s)
1 Related Host(s)
1 Related Agent(s)
Select All Unselect All Acknowledge Clear
Sev Time Ack'ed Cleared Host Instance Message Origin Agent Agent Type
10/24/08 1:40 PM N N tor014488.prod.quest.corp EventLog NT Event Log: Application PatchLink Update Agent A... EventLog win1 Windows_System
10/23/08 1:57 PM N N tor014488.prod.quest.corp EventLog NT Event Log: Application PatchLink Update Agent U... EventLog win1 Windows_System
10/23/08 1:57 PM N N tor014488.prod.quest.corp EventLog NT Event Log: Application PatchLink Update Agent U... EventLog win1 Windows_System
10/23/08 1:57 PM N N tor014488.prod.quest.corp EventLog NT Event Log: Application PatchLink Update Agent P... EventLog win1 Windows_System
10/23/08 11:36 AM Y N tor014488.prod.quest.corp Disk 0 C:'s: utilization is 1.00% and the Queue le... Disk_Utilization win1 Windows_System
10/23/08 11:32 AM Y N tor014488.prod.quest.corp FileSys_Table C: FileSystem C:: free space remaining 1.00% (2234.00... Capacity win1 Windows_System
10/24/08 12:03 PM N Y tor014488.prod.quest.corp
10/24/08 11:45 AM N Y tor014488.prod.quest.corp
10/24/08 11:33 AM N Y tor014488.prod.quest.corp
10/24/08 10:59 AM N Y tor014488.prod.quest.corp
10/23/08 11:40 PM N Y tor014488.prod.quest.corp
10/23/08 8:44 PM N Y tor014488.prod.quest.corp
Thursday, October 23, 2008 8:32 AM - 12:32 PM 4.0 hours
FileSys_Table(
Health:
Alarms:
Agent: win1
Host: tor014488.prod.quest.corp
Related
NT_FileSystem_Space_Overview
NT_FileSystem_Capacity
Data Browser

The health summary:

- shows the number of alarms by severity and the overall health of the selected alarm source.
- provides links to the agents and host for the alarm source.
- provides a list of related views that show quick drilldowns to help identify the root cause. This list is based on the views that match the type of the alarm source. The related views are often provided by cartridges. If no related views are available, then the default views (e.g. Data Browser, Summary) are provided.

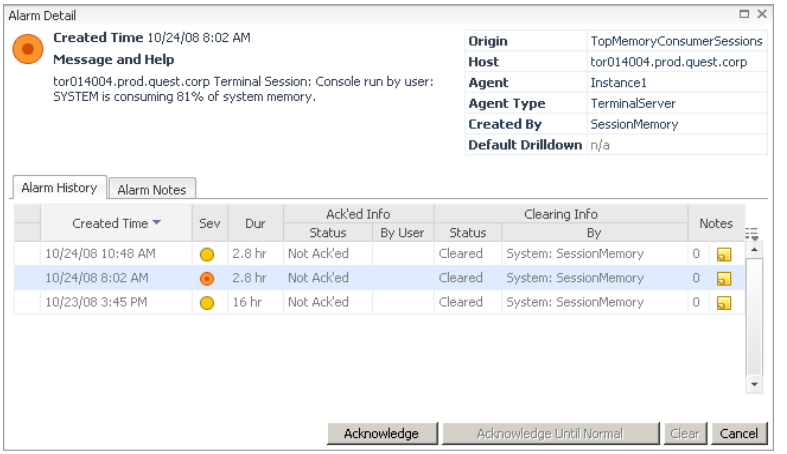
Alarm Details

The Alarm Details summary is shown when an alarm message, severity icon, alarm time, or agent type is selected.

You can check alarm details to view more information about an alarm in the alarms table. For example, if you are concerned about a particular alarm, click the alarm severity in the alarms table to view the alarm details. On the alarm details dialog box you can view the table that illustrates how the alarm has changed state in the current time range.

The Alarm Details dialog box shows alarms related to the current alarm in the given time range, acknowledgement information of these alarms (such as whether an alarm has been acknowledged or is not acknowledged), clearing information of these alarms, and any alarm notes added to these alarms.

The alarm details view also shows the full alarm history. This includes all consecutive alarms fired by the same rule on the same instance regardless of the time range. The default for 'consecutive' is 5 seconds.



Drilldowns

The following drilldowns are available from the Alarm Details with Actions popup.

Select	To
Instance	The data that triggers an alarm. See “Instance” on page 54.
Host	see the Host Summary as described on page 62.
Agent	see the “Instance” on page 54, as well as an indication as to the status and state of the agent (Broken or OK).
Agent Type	see the “Instance” on page 54, as well as an indication as to the status and state of the agent (Broken or OK).

Select	To
Origin (by rule)	displays the origin of the alarm. You can access links to: • **Rule Details—**to view a short synopsis about the rule • **Edit Rule—**to edit the rule definition • **Rule Help—**to display online help about the rule To edit a rule, select the rule name and then select **Edit Rule Definition**. The Rule Editor appears. For further information on editing rules, refer to the *vFoglight Administration and Configuration Guide*.
Default Drilldown	see the view associated with the rule that is listed in the by Rule field. From the view, you can then drill down to see additional details. If a view is not available for a rule, **N/A** is displayed.
Severity and Message at	show the date and time when the alarm severity occurred along with a description.
History tab	view a history of alarms for the: • Created Time (time when the alarm occurred) • Sev (alarm severity when the alarm occurred) • Dur: duration of length of time that the alarm was in the associated state. • Acknowledgment Info (indicating the status if the alarm was acknowledged or not, and by whom). For further information, refer to “Acknowledging an Alarm” on page 51. • Clearing Info (indicating the status if the alarm has been cleared or not, and message). For further information, refer to “Clearing an Alarm” on page 53. • Notes. Click the **Notes** icon to display the notes that were added to the alarm. Clicking the Notes icon takes you to the Alarm Notes tab described below. For more information on notes, see “Alarm Notes” on page 58.

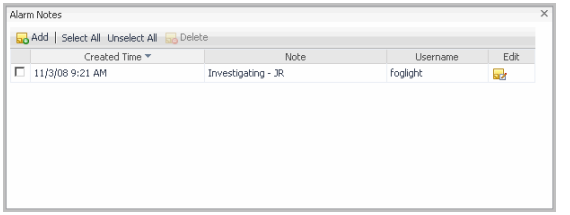
Select	To
Notes tab	Displays a list of all alarm notes added to the alarm. Alarm notes allow you to record information about an alarm for yourself and for others. For example, after acknowledging an alarm you can include a note and details as to the alarm. All users can view and create a note but only the author of the note can edit or delete an existing note. Notes can be added to any alarm at any time even after the alarm has cleared. Alarm notes display: • Created Time (time when the note was created) • Description of the note • User who created the note • An Edit icon to enable the creator of the note to change the note description. For more information, see “Alarm Notes” on page 58.

Alarm Notes

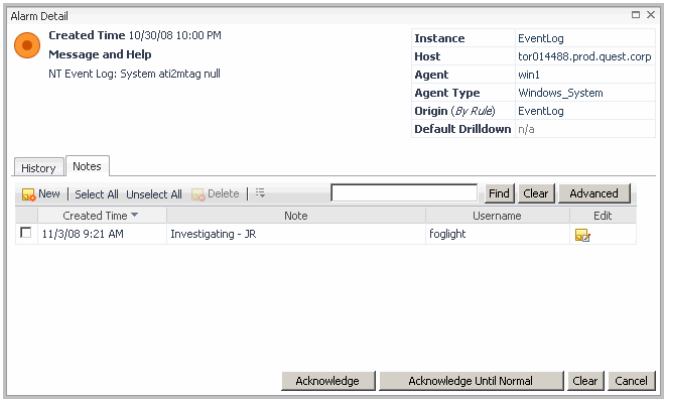
Alarm notes provide you with a handy way to record information about an alarm for all other users to view. For example, if you are managing alarms during an installation of vFoglight and if an urgent alarm comes up, you can add a note to the alarm that you are checking if the back-up process may be causing the problem. The note, along with a username stamp and a timestamp, are attached to the alarm.

There are two ways you can add notes from the Alarm Details dialog box by using either the:

- **History** tab. The **Notes** icon in the Alarm History table is for maintaining notes attached to a particular alarm in the history table. Clicking the **Notes** icon, takes you to the Alarm Notes dialog box.



- **Notes** tab. In the Notes tab, new notes are automatically attached to the most recent alarm in the alarm history.



You can also search for a note by using the **Find** button or **Advanced** button. See “Filtering Notes” on page 61.

Creating an Alarm Note

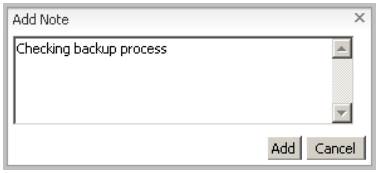
Alarm notes consist of freeform non-localizable text, a user name and a timestamp.

To create an alarm note:

1 From the Alarm Details view you can either:

- In the **History** tab, click on the Alarm note icon and then click **Add**.
- In the **Notes** tab click **New**.

2 In the Add Note dialog box, type a description of the note.



3 Click **Add**.

The description is added to the Alarm Notes dialog box.

You also have the option to:

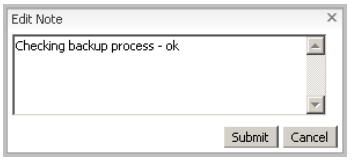
- **Acknowledge** the current alarm. See “Acknowledging an Alarm” on page 51.
- **Acknowledge Until Normal**. Selecting this option acknowledges the current alarm and all consecutive alarms fired by the same rule on the same instance. This option is available to an outstanding (not-yet-cleared) alarm only.
- **Clear** the selected alarm. See “Clearing an Alarm” on page 53.

Editing an Alarm Note

Only the creator of the note can edit the note.

To edit an alarm note:

1. From the Alarm Details view, you can either:
   - From the **History** tab click the **Notes** icon.
   - From the **Notes** tab, go to step 2.
2. Click the **Edit** icon.
3. In the Edit Note dialog, change the description of the note.



4. Click **Submit**.

   The description of the note changes to the modified text.

Deleting an Alarm Note

Only the creator of the note can delete the note.

To delete an alarm note:

1. From the Alarm Details view you can either:
   - Click the **History** tab, and then click on the Alarm note icon.
   - Click the **Notes** tab.
2. In the Alarm Notes dialog box, select the checkbox of the note(s) you want to delete.
3. Click **Delete**.

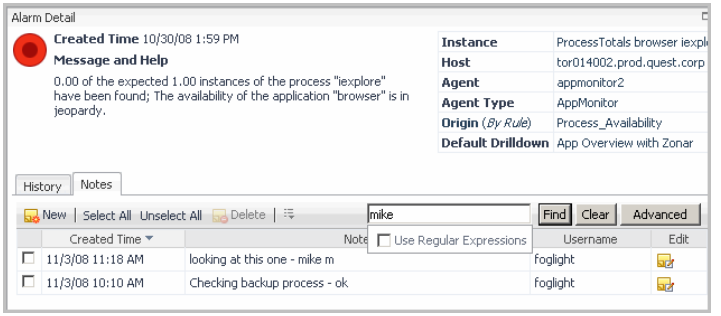
The selected notes are removed.

Filtering Notes

You can filter notes by clicking the **Find** button or the **Advanced** button in the Notes tab of the Alarm Details dialog box. Using the Regular Expressions option when filtering notes enables you to search substrings.

To filter a note using the Find button:

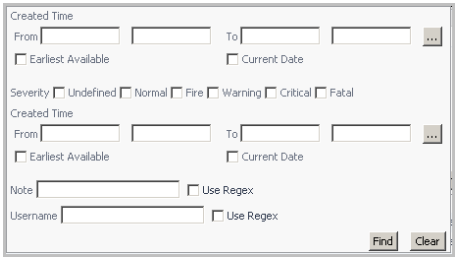
1. In the Alarm Details view, click the **Notes** tab for a particular alarm.
2. Click in the textbox and type a string. If desired, click the **Regular Expressions** checkbox to filter notes on substrings.



3. Click **Find**.

To filter a note using the Advanced button:

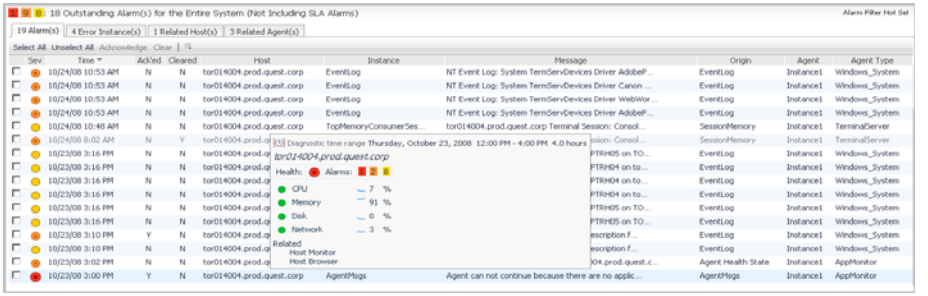
1. In the Alarm Details view, click the **Notes** tab for a particular alarm.
2. You can filter notes by using one or more of the following criteria:
   - **Created Time** (range, earliest available, current date)
   - **Severity** (Undefined, Normal, Fire, Warning, Critical, Fatal)
   - **Note**. Click the **Use Regex** checkbox to select the Regular Expressions option to filter notes on substrings.
   - **User name**. Click the **Use Regex** checkbox to select the Regular Expressions option to filter a user name on substrings.



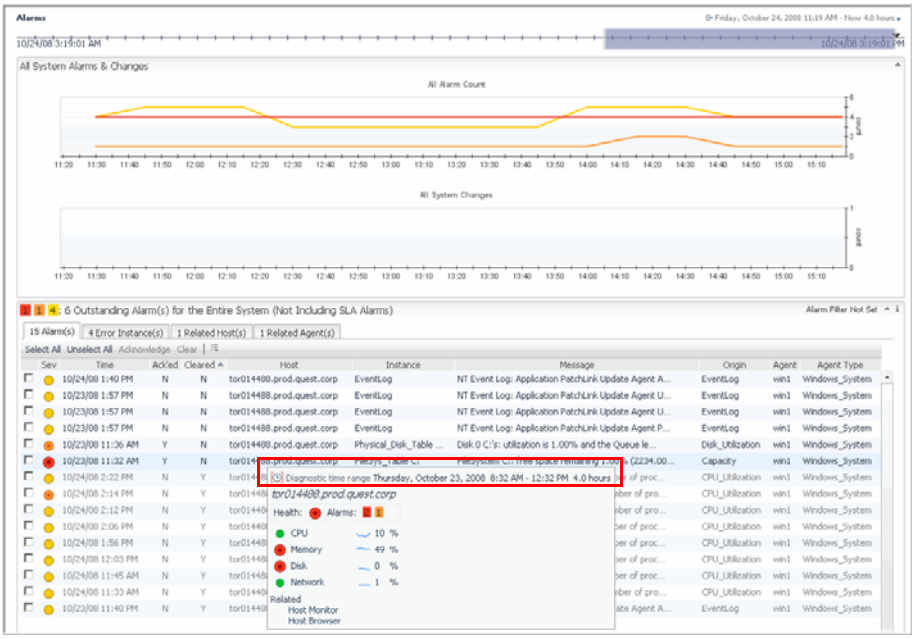
3 Click **Find**.

Host Summary

When a host summary or Host object is shown in the browser interface, you can view a host summary popup or dwell.



A diagnostic time range is displayed at the top of the popup summary. This time range indicates the period during which the alarm was fired. It is usually in the past and is sometimes different from the time range that appears on a dashboard. For example, the following alarm occurred on Thursday October 23rd at a particular time range, while the date displayed on the dashboard is Friday October 24th.



Drilling down from here retains the time range during which the alarm occurred. To go back to the monitoring time range you last used, "unfreeze" the range by following the procedures in “Freezing a time range” on page 40.

Drilldowns

The following drilldowns are available from the Host Summary popup.

Select	To
Health icon	see links to: • health of all alarm sources • health of current alarm source • all outstanding alarms for that alarm source

Select	To
Alarms	see a list of alarms according to alarm severity. Click on a particular alarm severity to view: • number of alarms for the particular severity • the alarm error instance on a particular agent or host • summary table of the time, instance, rule name and ack'd by details.
CPU, memory, disk, and network	see a detailed drilldown of that part of the host's performance.
Host Monitor Host Browser	see a real-time monitoring view of the host.

Creating a Custom Dashboard

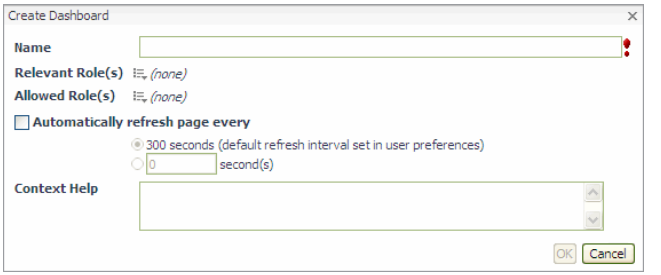
In addition to using the dashboards that are supplied with vFoglight or created by dashboard developers in your organization, you can create custom dashboards for your specific needs. These dashboards can contain any combination of tables and charts that you find useful. You can use the Columns options in the action panel to choose the number of columns for the dashboard.

The custom dashboards that you create are located under My Dashboards in the navigation panel.

To create a dashboard:

1 Click **Create Dashboard** in the action panel.

The Create Dashboard dialog box opens.



2 Type a unique name for the dashboard in the **Name** field. This is the only information required to create a new dashboard.

3 By default, a dashboard you create is not available to any vFoglight roles. You can select the default roles to control how people gain access to different parts of the browser interface. To do this, click the edit icon beside **Relevant Role(s)** and/or **Allowed Role(s)** and select the appropriate roles.

- **Relevant Role**—Select the roles for allowing existing dashboard users to view a dashboard. The option to choose a relevant role is only valid for super users such as a Java administrator who also has an operator role. Selecting the **Cartridge Developer** role enables a filter to restrict certain user roles (e.g. Operator role) from accessing the dashboard. Selecting the **Operator** role allows anyone with this role to access the new dashboard.
- **Allowed Role**—determines if a user role is allowed to see the dashboard. Selecting the **Operator** role allows anyone with this role to access the new dashboard.

4 If you want the views in your dashboard to be refreshed at regular intervals, click the **Automatically refresh page every** check box and choose one of the options. If you choose the second option, you need to enter a number of seconds in the text box to indicate the length of the refresh interval.

5 You can enter a description of the dashboard in the **Context Help** text box. This text will appear in a tooltip when you hover over the dashboard name in the navigation panel.

6 Click **OK** to save your dashboard.

Two additional tabs (Views and Data) appear at the top of the action panel.

7 In the action panel, select the **Views** or **Data** tab and locate the views or portlets that you want to add to your dashboard. You can add both types of information to the same dashboard. For information on editing charts, see “Metrics Chart Editor” on page 71.

Note When you have finished adding views to your dashboard, you do not need to save it. It is automatically available under My Dashboards in the navigation panel.

8 To divide the display area into one, two, or three columns, choose the number of columns in the action panel, under the **General** tab > Columns.

Deleting a Custom Dashboard

You can delete any custom dashboard that you have created. You may also be able to delete dashboards created by other users, although this is not recommended. You cannot delete any default dashboards or dashboards created by dashboard developers in your organization.

To delete a custom dashboard:

1. Select the dashboard that you want to delete from the list under **My Dashboards**.
2. Click **Delete this page** in the action panel.

   A confirmation dialog appears.
3. Click **Delete** to confirm the deletion.

   The dashboard is removed from the My Dashboards view.

Working with Charts

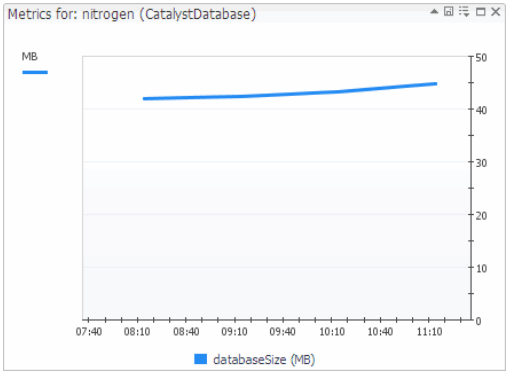
Data charting enables you to create pre-defined and customizable charts that let you access and analyze collected data.

This section describes the options available when you are adding charts to a dashboard or report that you have created.

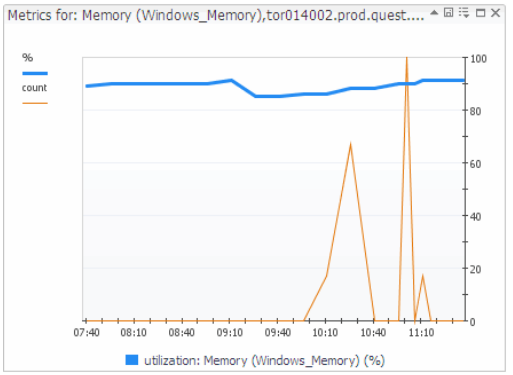
Creating a Metrics Chart

To create a metrics chart:

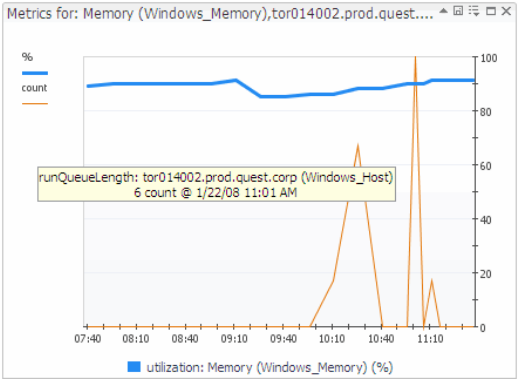
1. Drag each metric from the Data tab in the action panel into its own chart, as shown below.



2 You can also add one or more metrics to an existing chart.



- The metrics in the chart are indicated by different-colored lines at the left side of the chart under count and percentage (%).
- The line for the currently displayed metric (by default, the first one chosen) is bold. To highlight other metrics in the chart, click on the lines in the legend. The legend below the chart changes to indicate the name of the highlighted metric.
- When you hover over a line in the chart, a dwell indicates the name of the metric, as well as the count or percentage and the specific date and time when it was collected.



The Y axis shows the units for the metric. If there is more than one metric in the chart, the Y axis shows the units for the first metric that was charted, unless you have unchecked the Layout check box in the Metric Chart Default dialog (see “Setting Metric Chart Labels” on page 76 for details).

By using the Customizer function you have the option to export metric data for charts to CSV format. See “Exporting Data from Charts and Tables” on page 45.

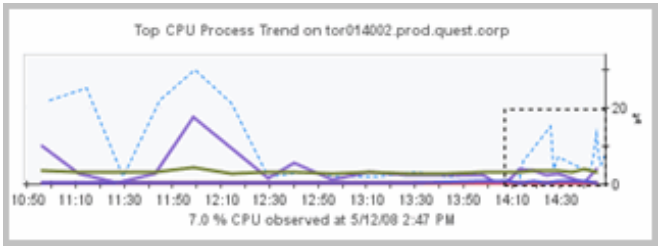
Zooming Into Charts

For plot or bar charts, you can zoom into an area to view data at different levels of detail by using CTRL + drag. You can also drag on an axis to specify the region you would like to zoom into (a zoom region).

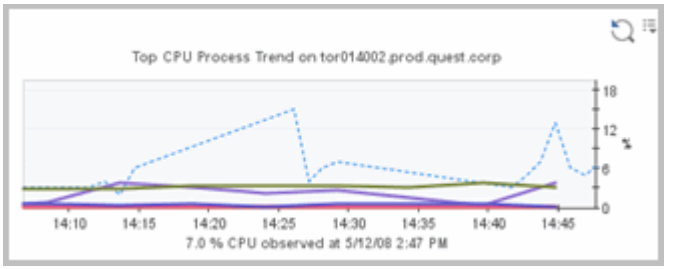
To zoom into a chart:

1 In a line graph, zoom in to the area of the chart. Select one of the following methods to specify a zoom region:

- press CTRL + drag on the area
- drag on the axes of the chart



2 The chart will zoom into the range selected and will locally change the time range so vFoglight displays all data points. Now you can view the data for the selected metric at a more granular level.



3 To zoom out and return the line chart to its original view, click the Reset Zoom icon in the top right corner.

Changing the Chart Type

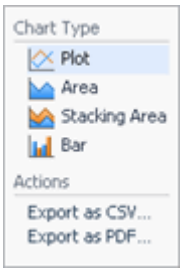
If the Customizer icon is enabled for charts, you have the option to dynamically change the chart to a different chart type (bar, plot, area, stacking area). For example, choose the chart type to Area to emphasize the magnitude of change over time and illustrate the metric parts in relation to the whole graph.

Note To access the customizer it needs to be enabled. By default, chart customizers are not enabled.

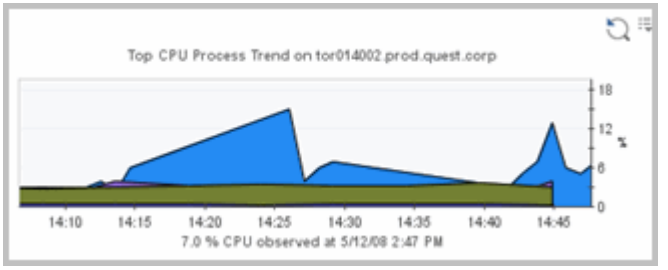
To change the chart type:

1 Click the Customizer icon in the top right hand corner of the chart.

2 In the Chart Type dialog box, click the chart type to change.



The chart dynamically changes to the selected chart type.



To export the chart to CSV or PDF format, see Exporting Data from Charts and Tables.

Chart Options

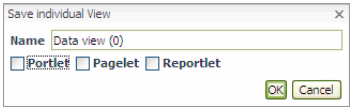
You can edit, save, maximize, restore, or close a chart by clicking the icons in the title bar. The editing options are described under “Metrics Chart Editor” on page 71.

Note All other charts are hidden when you maximize a chart.

To save a chart:

1 Click the save icon in the title bar of the chart that you want to save.

The Save Individual View dialog box appears.



You can accept the default name, edit, or type another name for the chart.

2 Select the format in which you want to save the chart.

- **Portlet**—this option appears in the Views tab when creating a dashboard. If you choose **Portlet**, the view will be available on the **Views** tab (under My Views) to be added to a dashboard that you create from the action panel.
- **Pagelet**—this option appears as a view that is designed to be added to a page or dashboard.
- **Reportlet**—the main purpose of reportlets is to appear in the Views tab when creating a report. If you choose **Reportlet**, the view will be available on the **Views** tab (under My Views) from where it can be added to a report that you create from the action panel.

Pagelets and Reportlets are listed under **Configuration** > **Definitions** in the navigation panel. If you have access to the Definitions area, you can use them when building a dashboard. For information about building dashboards, see the *Web Component Tutorial*.

3 Click **OK**.

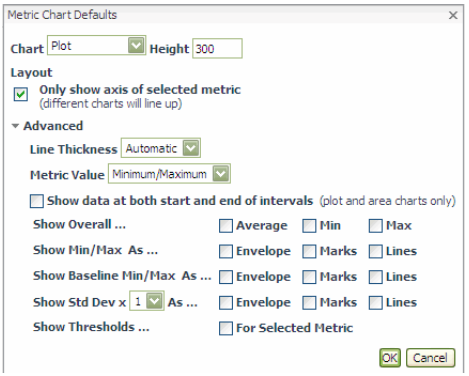
Metrics Chart Editor

There are two editors that control how metrics are displayed in charts: one controls the settings for all the charts that you create; the other controls the settings for the current chart.

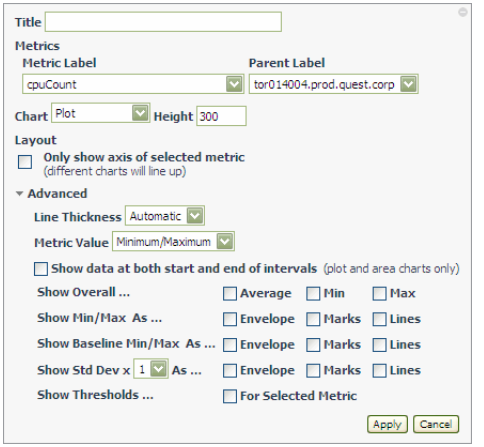
Editing a Chart

To edit a chart:

1 To apply changes to any new metrics chart that you created, click **Set metric chart defaults** in the action panel. The Metric Chart Defaults dialog opens.


Metric Chart Defaults
Chart Plot Height 300
Layout
Only show axis of selected metric
(different charts will line up)
Advanced
Line Thickness Automatic
Metric Value Minimum/Maximum
Show data at both start and end of intervals (plot and area charts only)
Show Overall ... Average Min Max
Show Min/Max As ... Envelope Marks Lines
Show Baseline Min/Max As ... Envelope Marks Lines
Show Std Dev x 1 As ... Envelope Marks Lines
Show Thresholds ... For Selected Metric
OK Cancel

2 Click the edit icon in the title bar of a chart to display an edit dialog where you can make changes that affect only that chart.



The settings you can change are described in the following table. Note that not all the options are available in both dialogs.

Setting	Description	Options/Limits
Title	Allows you to rename the chart.	No specific limits, but keep display space in mind.
Metric Label	Allows you to choose another label for the metric.	Only available when editing a single chart.
Parent Label	Allows you to choose another label for the parent metric. This label appears in the title of a chart that contains metrics from a single parent. The parent label appears in the legend when the chart contains metrics from more than one parent. (For example, see “Grouping Metrics with Many Parent Hosts” on page 75.)	Only available when editing a single chart.

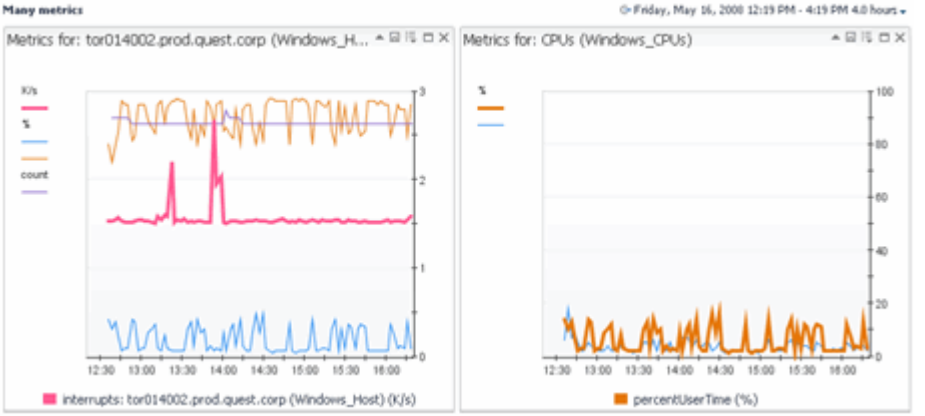
Setting	Description	Options/Limits
Chart	Lists the available types of chart.	• Plot (default) • Area • Stacking area • Bar
Height	Sets the height for all charts or this chart.	The default chart height is 300 pixels.
Layout	Select "**Only show metric of selected chart**" to show only one axis is used in the chart, regardless of how many metrics are displayed. (For examples, see "Setting Metric Chart Labels" on page 76.) Clear the check box to display the label for all metrics in the legend.	Check box.
Line Thickness	Specifies the thickness of lines in all charts or this chart.	• Automatic • Small • Medium • Large

Setting	Description	Options/Limits
Metric Value	Controls the type of value that is displayed for one metric or all metrics in a chart.	• None • Average: The chart displays the average value for the metric per interval. • Minimum: The chart displays the actual lowest value for the metric per interval. • Maximum: The chart displays the actual highest value for the metric per interval. • Minimum/Maximum: The chart displays the maximum and minimum value for the metric per interval. • Sum
Show data at both start and end of intervals	Applies only to plot and area charts.	Check box
Show Overall	Displays the overall value for the set time range as a dashed line.	• Average displays the overall average. • Min displays the overall minimum. • Max displays the overall maximum.
Show Min/Max As	Displays the minimum and maximum per interval.	• Envelope (a filled-in area between the minimum and maximum) • Marks • Lines

Setting	Description	Options/Limits
Show Baseline Min/Max As	Displays the baseline minimum and maximum.	• Envelope (a filled-in area between the minimum and maximum) • Marks • Lines
Show Standard Deviation As	Similar to the Min/Max setting; lets you highlight a range per interval. You determine the high and low values by setting the deviation from the average.	The default value is 1, but the unit of deviation depends on the metric. • Envelope (a filled-in area between the minimum and maximum) • Marks • Lines
Show Thresholds	If a metric has a threshold, it is displayed.	You can choose to show thresholds only for the selected metric.

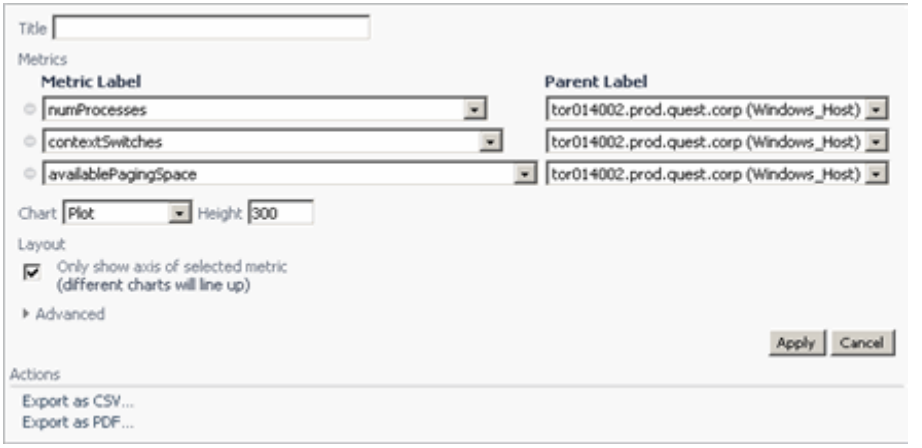
Grouping Metrics with Many Parent Hosts

When you have many metrics on a chart from different parent hosts, the parent label will appear in the legend when metrics are grouped. For example, in the chart on the left below, if you drag metrics from a Windows_Host and from a Windows_CPU, the parent label shows up in the metric labels themselves since the metrics are mixed. In the chart on the right below, if you drag metrics from the Windows_CPU host only, the legend does not refer to the parent.

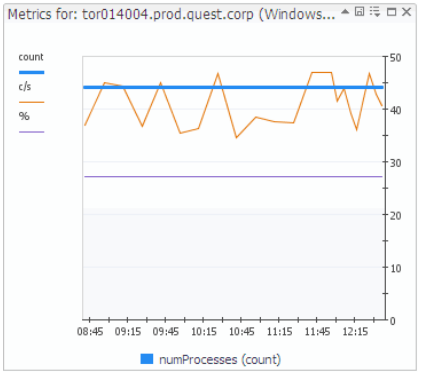


Setting Metric Chart Labels

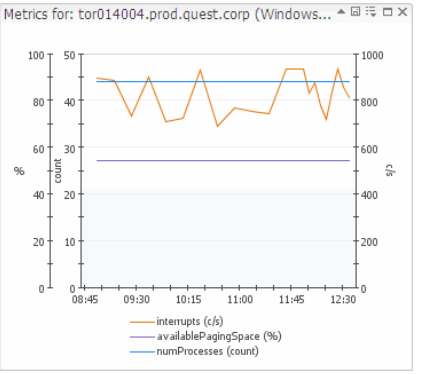
The Layout option enables you to choose the layout of the metric chart axes.



- Select the **Layout** check box for a chart to indicate only one axis is used in the chart, regardless of how many metrics are displayed, as shown below.



- Clear the **Layout** check box to display all the axes in the chart, as shown below.



Viewing Dashboard Properties

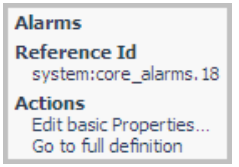
When you are viewing a dashboard, you can edit some or all of its properties and definition if you have the appropriate role(s).

You can also use this procedure to publish a dashboard that you have created.

To view the properties of a dashboard:

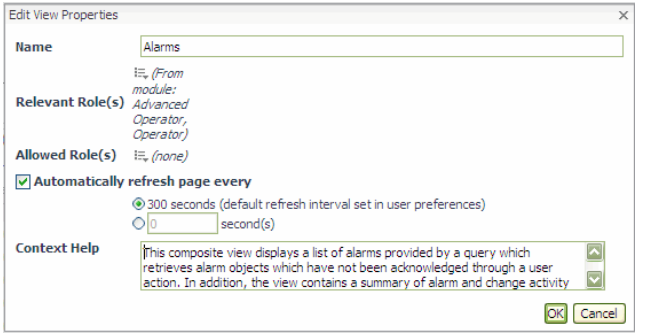
1. Select the dashboard whose properties you want to view or change.
2. Click **Properties** in the action panel.

   A popup appears.



3 Click **Edit basic Properties**.

The Edit View Properties dialog appears.


Edit View Properties
Name
Alarms
Relevant Role(s)
(From module: Advanced Operator, Operator)
Allowed Role(s)
(none)
Automatically refresh page every
300 seconds (default refresh interval set in user preferences)
0
second(s)
Context Help
This composite view displays a list of alarms provided by a query which retrieves alarm objects which have not been acknowledged through a user action. In addition, the view contains a summary of alarm and change activity
OK
Cancel

Depending on your role(s), you may be able to change some or all of the properties.

To make available a dashboard that you have created, it is recommended that you choose **Operator** for both the Relevant Role and Allowed Role.

4 Click **OK** to close the dialog and save any changes.

If you have access to the Definitions area (under Configuration in the navigation panel), you can view (and possibly make changes) to the definition of a dashboard. For details about creating dashboards, see the *Web Component Tutorial* and the *Web Component Guide*.

To view or change the definition of a dashboard:

1 Select the dashboard whose definition you want to view or change.

2 Click **Properties** in the action panel.

3 Click **Go to full definition** in the popup.

The definition page for this dashboard appears.

4 If you can make changes to the definition, click **Edit**.

5 If you have made changes to the definition, click **Save**.

Working With Tables

You can sort and filter data in a table, if these functions are enabled on the table.

Sorting Tables

If a table is sortable, you can sort it by clicking the column-header text. A down ( ) or up ( ) icon in the table header indicates the current sort order.

Filtering Tables

Some tables have a filter option in the title bar. When you click it, a dialog opens in which you select filtering criteria. You then click **Apply** to refresh the table and display only those rows in which the data meets the specified criteria. For an example of table filtering, see “Filtering the Alarms View” on page 50.

Hiding Columns

Another way you can filter tables is to hide some of the columns. If this option is available, there is an edit icon ( ) at the top of the table. Clicking the edit icon opens a popup list of all the columns, where you can de-select the columns you want to hide and click **Apply**. To display a hidden column, select it and click **Apply**. For an example, see “Hiding Columns in the Alarms View” on page 51.

Paging Icons

By default, most tables display only a set number of rows. If there are more rows, you can display the additional rows by using the paging buttons:

Button	Name
	First page
	Previous page
	Next page
	Last page

Note Active buttons are blue. Disabled buttons are gray.

Printing Views

You can print vFoglight views using the Print option in the actions panel. The view is displayed in a separate browser with a standard print dialog.

Note To generate a PDF file for a table that exceeds the number of rows to fit on a single page, the table should be specified as either a top level view with the Purpose = report in Configuration > Definitions, or it should be included in the Report Layout container.

The output is formatted using the Print theme specified in the User Preferences page. (see “User Preferences” on page 24 for details). You can override this setting by choosing a different option in the action panel under Themes.

4

Working with Services and Alarms

A service is a collection of objects that you want to monitor. Some services are created automatically (such as Hosts and Databases) as part of the vFoglight Management Server or as part of the cartridges you deployed. However, most services are created by users based on what they find interesting, and are typically organized around what a user needs to monitor. Different groups of users can define their own services. For example, a database administrator creates database services or a vFoglight administrator creates System services.

Alarms are triggered by performance problems on services. This chapter provides details on how to view system-wide alarms for all monitored services.

This chapter contains the following sections:

Overview 82
Monitoring Services 84
Viewing System-Wide Alarms and Service Details 92
Examining Details on a Single Service 93
Viewing Service Levels 94
Building a Service 96
Filtering Alarms 103
Monitoring System-Wide Alarms 106

Overview

In vFoglight, a service is defined as a grouping of one or more monitored components. Typical examples of monitored components include a host, a database, a VirtualCenter server, etc.

Services can be nested within other services, each with their own monitored components. All vFoglight services are listed on the Services dashboard, which can be accessed from the navigation panel. From here you can perform the following tasks:

- Monitoring Services
- Viewing System-Wide Alarms and Service Details
- Examining Details on a Single Service
- Viewing Service Levels
- Building a Service
- Filtering Alarms
- Monitoring System-Wide Alarms

Icons

There are several different types of icons used to represent monitoring data in vFoglight. The types are:

- Severity Icons
- State Icons
- Availability Icons

The severity and state icons tell you about the condition of an application, server, or process. They are based on the values stored in the metrics. What they represent changes according to their context. For example, the same state icon can indicate that a server is down or that a process is down.

Many summary views show icons that represent an aggregation of the detailed objects of similar types. vFoglight prioritizes the data when determining the aggregation. For example, if three test servers are down, and one production server is active, then a summary view would show a critical icon, not a fatal icon.

Depending on where it is, you can hover over a severity or state icon or click it to get further information about the condition it represents.

Severity Icons

Severity icons indicate the severity level of alarms that have fired.

Icon	Description
	Normal
	Warning
	Critical
	Fatal

The normal icon indicates that there have been no critical, warning, or fatal events fired. vFoglight does not record events that are successful; it can only determine that there are no events that had problems.

State Icons

State icons indicate the status of a domain, server, application, or process.

Icon	Description
	Normal
	Warning
	Critical
	Fatal

Availability Icons

Availability icons indicate the availability of an application, service, or process.

Icon	Description
	Available
	Not available

Monitoring Services

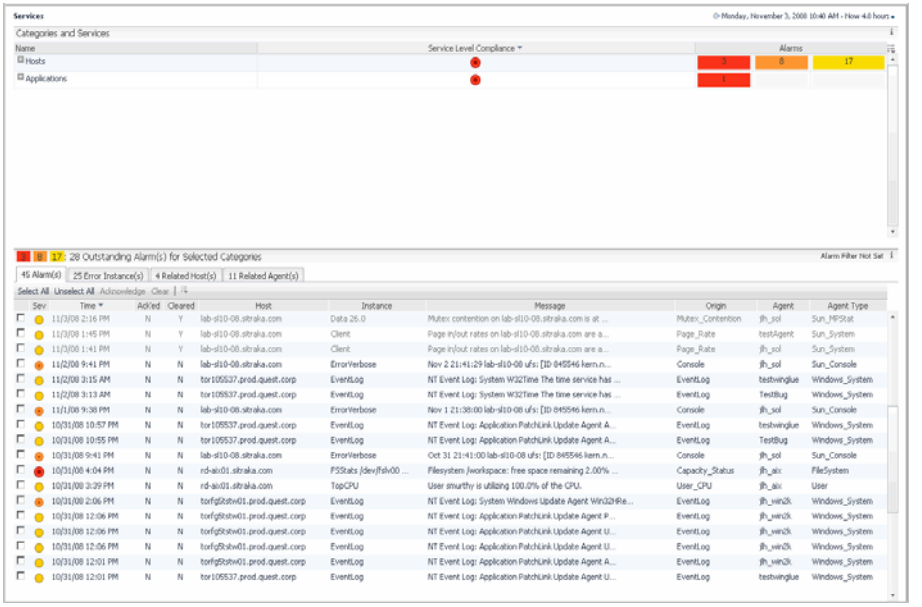
You can monitor services using the Services dashboard. This dashboard shows the state of a selected set of services. From this dashboard you can see the alarms for all selected services, alarms for a specific service, the SLA state for a service, and the contents of a service. You can also navigate to dashboards where you can change service definitions. This dashboard is the best one to use for monitoring services.

To start monitoring services:

1 On the navigation panel under **Dashboards**, click **Services** > **Services**.

Tip The Services dashboard is one of the default home pages so you can also click Services under the Homes section in the left hand pane for quick access.

The Services dashboard appears.



This dashboard contains two views:

- Categories and Services
- Outstanding Alarms for Selected Categories

Categories and Services

The Categories and Services view lists all the monitored services by category. For each category and service it displays the following information for the current time range.

Select	To display
A category or service	the view that is described in "Viewing Details about a Service" on page 87.

Select	To display
A Service Level Compliance icon	further details about the related Service Level Agreement. A service can have one or more service level policies. The compliance icon of a given service shows the worst state of all the service level policies that are defined for the service. For example, in the above screen, the Windows service has a Fatal SLA state because one of its components has a Fatal state, even though the others are in a Critical state.
An alarm icon	a list of alarms for components that are being monitored. This is a common view in vFoglight. For further information, refer to “Alarm List” on page 46.

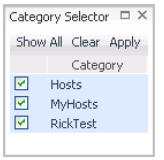
Filtering the Categories and Services List

You can filter the list of service categories that are displayed in the Categories and Services view.

To filter the Categories and Services list:

1 In the Action panel, click **Category Selector**.

The Category Selector dialog box displays all the available services.



2 Select the service or services that you want to display, or de-select the service or services that you do not want to display.

You can click **Show All** to select all the services or click **Clear** to de-select all the services.

Note If you click **Clear**, you must then select at least one service before you can proceed.

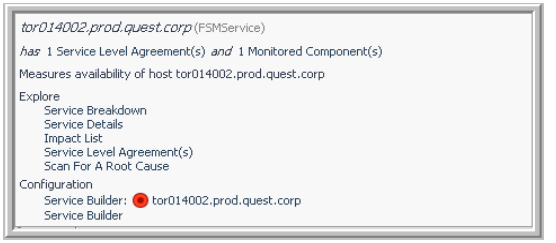
3 Click the **Close** button to close the dialog box.

The Categories and Services view displays only the services that you selected.

Viewing Details about a Service

The Categories and Services view provides a number of ways to see more detailed information.

- From the Services and Category list, select a category or service to see details by service and host. The popup also provides links to more detailed views, which are described in the table below.



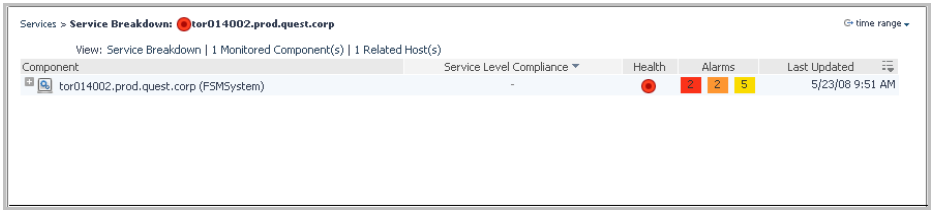
Click this link	If you are interested in seeing..
Service Breakdown	the structure of a specific service. For details, see “Drilling Down to Detail Views” on page 88.
Service Details	detailed information about a service. For further information, see “Examining Details on a Single Service” on page 93.
Impact List	a list of services impacted by the current service.
Service Level Agreement(s)	detailed information about the service level agreement(s) defined for a service. For more information, see “Viewing Service Levels” on page 94.

Click this link	If you are interested in seeing..
Scan for a Root Cause	a diagram that shows the composition of a service and the state of each component in the service. It allows a user to quickly scan for the root cause of a problem reported on the service. For details, see “Root Cause Analyzer” on page 90.
Service Builder	the Service Builder for the selected service or all monitored services. For details, see “Building a Service” on page 96.

If you hover over a category, you see the same popup without the links.

Drilling Down to Detail Views

Clicking the **Service Breakdown** link in the popup shown on page 87 takes you to the Service Breakdown view for that service.

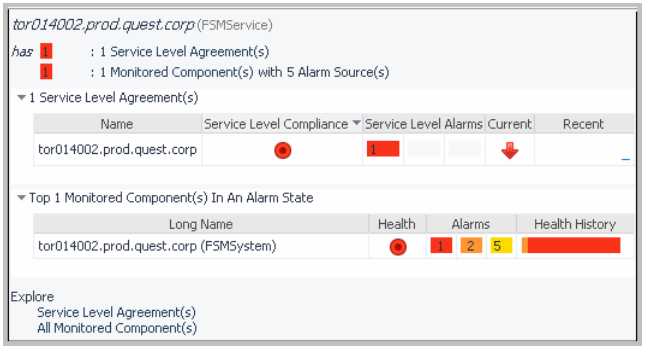


This view provides details about how a specific service is comprised. From here, you can drill down to more specific details, as outlined in the table below.

Select	To display
A component	a popup that provides a summary of the host, service, or application. This summary includes the number of alarms by severity, health status, and related links. For a description of the host summary popup, refer to “Host Summary” on page 62.

Select	To display
A Service Level Compliance icon	further details about the related Service Level Agreement. The Service Level Compliance for a category or service is determined by the component in the worst state.
A health icon	links to: • health of all alarm sources • health of current alarm source • all outstanding alarms for that alarm source
An alarm icon	a list of alarms for components that are being monitored. This is a common view in vFoglight. For further information, refer to “Alarm List” on page 46.

For example, if you click an icon in the Service Level Compliance column, you will see a popup like the one in the following screen shot.



Notice that this view contains links to the Service Level Agreements for this service. For details about this dashboard, see “Viewing Service Levels” on page 94.

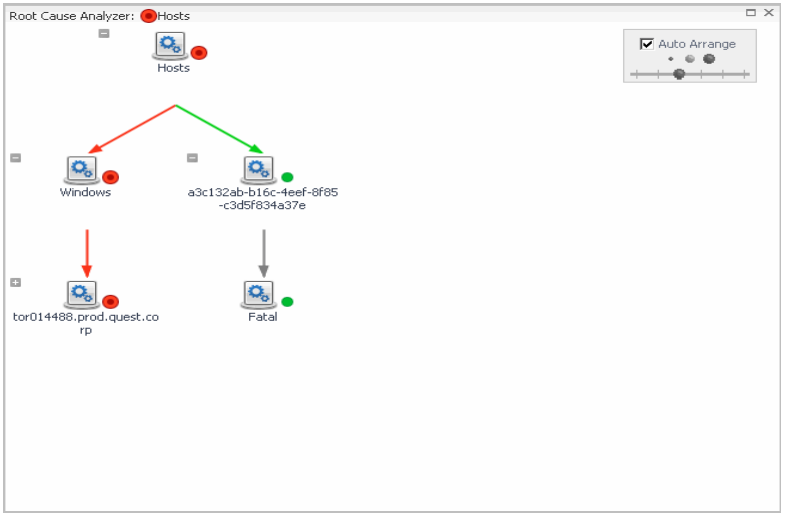
The Service Breakdown view also summarizes the service’s contents from a number of different perspectives, namely by Monitored Component(s) and Related Host(s). Refer to the table below for details.

Click this link	To display
Monitored Component(s)	a list of the components that are being monitored by a specific service. To quickly find a component, enter the component name in the search text box at the bottom of the dashboard. For example, enter **CPU** in the text box to find all CPU components in the service.
Related Host(s)	a list of hosts that are being monitored by a specific service.

Root Cause Analyzer

Clicking the **Scan For A Root Cause** link in the popup shown on page 88 allows you to manually change the vFoglight-created /default, topology layout of the hosts and drill down to a diagram of the components to which this one is connected. Each component has a state icon, which helps you trace the critical path of performance issues across a domain. (For an explanation of the icons, see “Icons” on page 82.)

As shown below, the path to a child in a Fatal state is red, while the path to a child in a Normal state is green. The path to a child in a Warning state would be yellow.



You can move the depth control in the upper right corner back and forth to set the number of levels (1-6) in the diagram. The default setting is three levels.

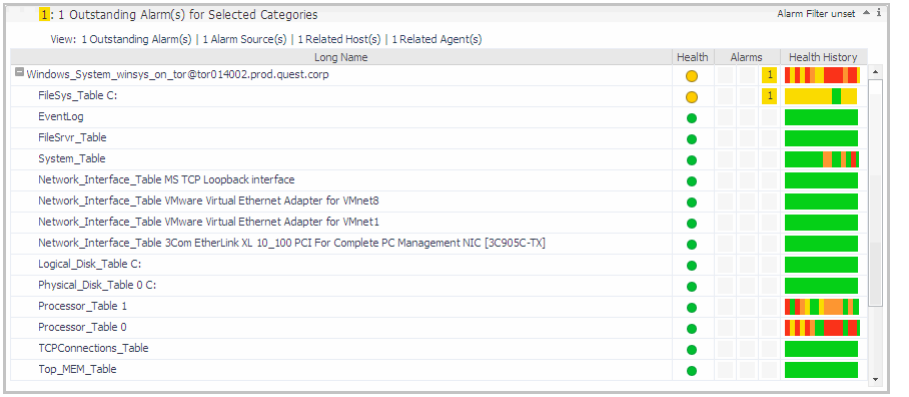
The dots above the depth control determine the scale of the diagram.

- Click the smaller dot to reduce the scale for easier navigation of large diagrams.
- Click the medium dot to restore the diagram to its original scale.
- Click the largest dot to zoom to the highest zoom level.

Auto Arrange is selected by default. If you move a component, the Auto Arrange check box is deselected. From here you can manually layout the components as you wish. To return to the original layout, select the **Auto Arrange** check box.

Outstanding Alarms for Selected Categories

The Outstanding Alarms for Selected Categories view contains a table that lists the most recent alarms for the category selected in the Categories and Services view.



You can filter the list in the Outstanding Alarms view using several criteria. For details, see “Filtering the Alarms View” on page 50.

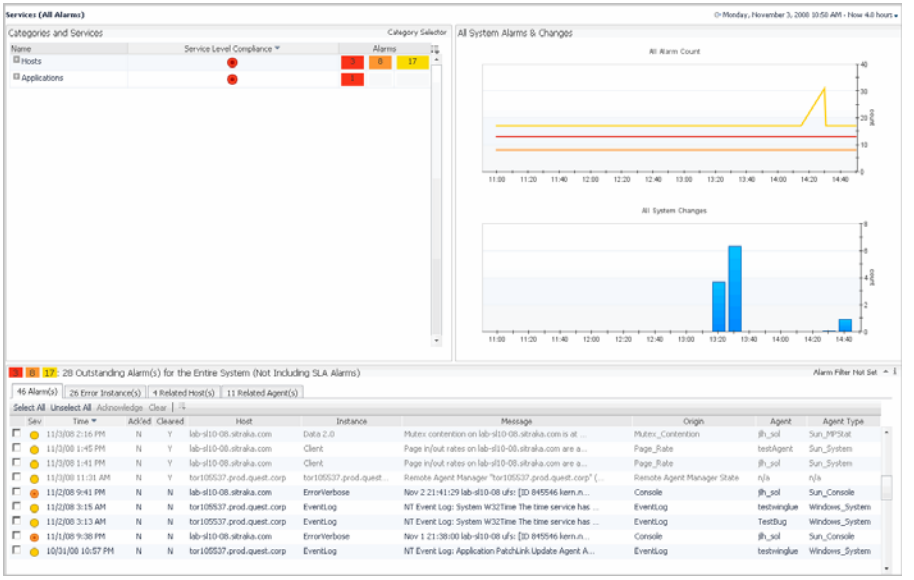
Viewing System-Wide Alarms and Service Details

The Services (All Alarms) dashboard is a summary dashboard that contains views with information from other dashboards such as service levels, alarms, and system changes.

To view system-wide alarms and service details:

- From the navigation panel under **Dashboards**, click **Services** > **Services (All Alarms)**.

  The Services (All Alarms) dashboard appears.


Services (All Alarms)
Categories and Services
All System Alarms & Changes
All Alarm Count
All System Changes
28 Outstanding Alarm(s) for the Entire System (Not Including SLA Alarms)

The Categories and Services view is described under "Categories and Services" on page 85.

The All System Alarms and Changes and Outstanding Alarm(s) for the Entire System views are described under "Monitoring System-Wide Alarms" on page 106.

Examining Details on a Single Service

The Service Details dashboard contains views that provide detailed information about a service. It shows all the SLAs, the service impacts, a full definition viewer, monitored components, host perspectives, and an alarm list for the selected service.

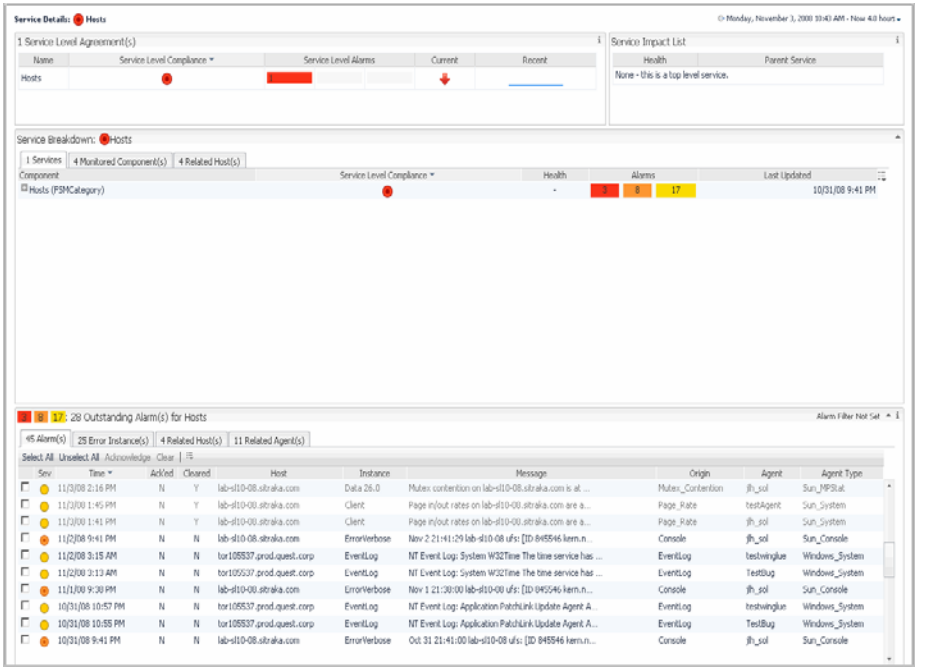
This is the best dashboard to use to view a service in detail.

To examine details on a single service:

- From the navigation panel, under **Dashboards**, click **Services** > **Service Details**.

  The Service Details dashboard appears.

Note You can access this dashboard from the Services dashboard by selecting a service and choosing **Service Details** in the popup.



To see data for another service, select **Service Selector** in the action panel to open the Service Selector dialog, where you can choose another service.

To choose another service:

1 From the action panel, select **Service Selector**.

The Service Selector popup appears.

2 Navigate to the service for which you want to see details.

The Service Details dashboard is refreshed with data about the chosen service.

3 Click ✕ to close the popup.

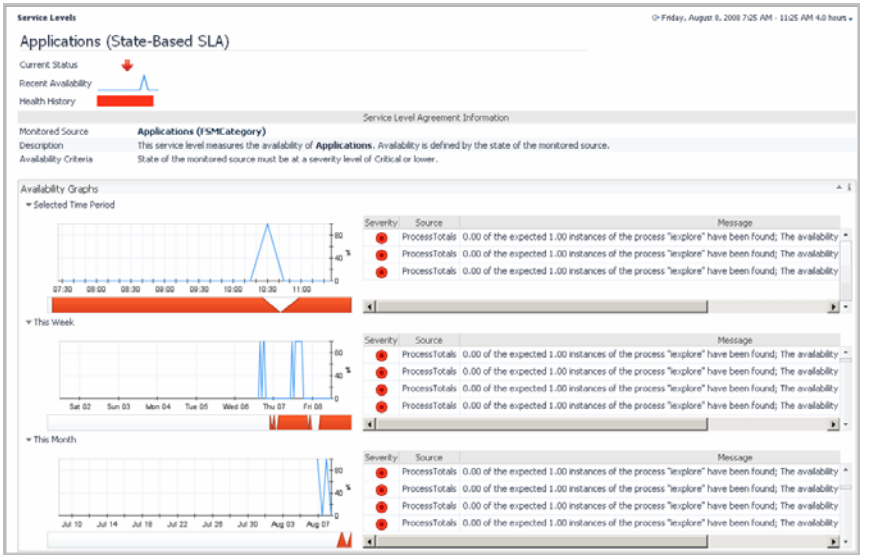
Viewing Service Levels

The Service Levels dashboard provides details about the service levels that are being monitored by vFoglight. Use this dashboard to measure the availability of a service.

To examine service levels:

1 From the navigation panel, under **Dashboards**, click **Services** > **Service Levels**.

The Service Levels dashboard appears.


Service Levels
Applications (State-Based SLA)
Current Status
Recent Availability
Health History
Service Level Agreement Information
Monitored Source
Applications (FSMCategory)
Description
This service level measures the availability of Applications. Availability is defined by the state of the monitored source.
Availability Criteria
State of the monitored source must be at a severity level of Critical or lower.
Availability Graphs
Selected Time Period
This Week
This Month
Severity
Source
Message
ProcessTotals
0.00 of the expected 1.00 instances of the process "iexplore" have been found; The availability

This dashboard lists the current status, recent availability (used to determine the status), and health history.

Other information that is displayed is listed under the following headings.

Service Level Agreement Information

The Service Level Agreement Information area includes the description, the monitored source, and the availability criteria that are used to determine the status of the SLA.

Availability Graphs

The availability graphs display data for the service level alarms. The three areas display data for the current time period, week, and month. The tables to the right of each graph summarize the severity level, source, and message for each alarm. Clicking an alarm in a table displays a popup with details about that alarm.

Choosing Another Service Level

To see service levels for another service, select **Service Level Selector** in the action panel.

To choose another service level:

1 From the action panel, select **Service Level Selector**.

The Service Level Selector popup appears.

By default, the Service Level Agreements for all the monitored services are listed.

2 Select the Service Level Agreement for which you want to view details.

3 If you do not want to see the list of all the Service Level Agreements, deselect the **List All Service Level Agreements** check box.

The Service Levels dashboard is refreshed with data about the chosen service.

Building a Service

A service is a grouping of one or more components. The Service Builder provides the functions needed to create a new service, tier, application, or category as well as edit existing services. When you create a service, a corresponding service level is automatically created.

To navigate to the Service Builder:

1 From the navigation panel, under **Dashboards**, click **Services** > **Service Builder**.

The Service Builder dashboard appears.

Services are used as inputs on many other dashboards (Hosts Table, Agents) besides the Services dashboards, as well as in reports. Defining a good set of services can make other dashboards more useful and easier to understand.

Creating a New Category

Use the Service Builder dashboard to create categories that will be used as inputs on many other dashboards.

To create a new category:

1 In the Service Builder dashboard, click **Add** and then select **Add Category**.

The New Category dialog appears.

2 Type a name for the category.

Note You can change the name of a service at a later date, without losing all history for a service. See “Editing a Service Name” on page 102.

3 You can enter text in the Short Description and Description fields, but these are optional. The text in the Description field appears in a popup when you hover over a service. You can modify the description later by following the procedures described in “Editing a Service Description” on page 103.

4 Click **Create**.

The new category is added to the list.

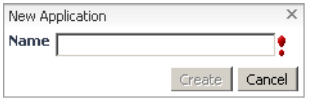
Creating a New Application

Applications that you create here will be added as a service in the Applications category.

To create a new application:

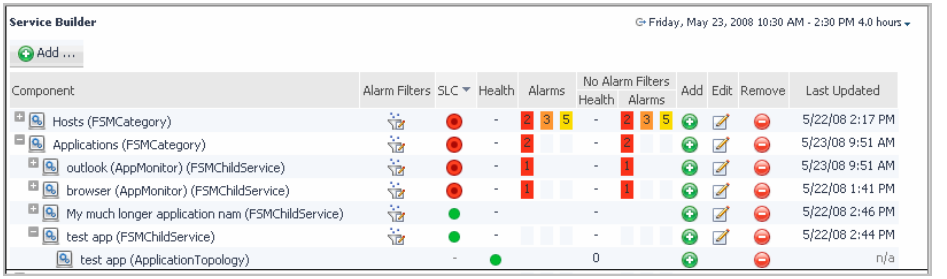
1 In the Service Builder dashboard, click **Add** and then select **Add Application**.

The Application Creator dialog appears.



2 Type a name that is unique to vFoglight for the application and click **Create**.

The new application is added as a service to the Applications service category. An application topology component is added below the service. For example in the screen shot below, *test app* has been added as a service to the Application service category. A corresponding application topology component has been added below the new application.



From here you can add application tiers to the new ApplicationTopology component. Refer to “Adding an Application Tier” on page 101 for details.

Building a Service

Use the Service Builder dashboard to build a service or category as well as add a service to vFoglight.

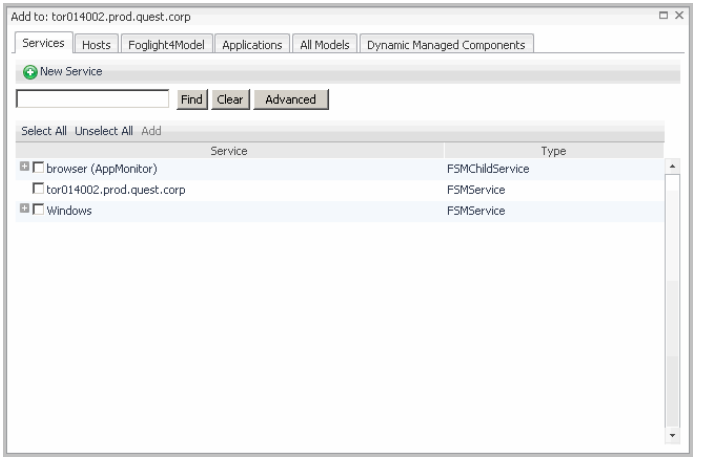
To build a service:

1 Click **Add** for the service or category with which you want to work.

2 From the popup, select **Add Components**.

The Add to: dialog appears. From here you can choose the components that you want to add as well as create a new service.

3 Select the type of component that you want to add by navigating through the **Services**, **Hosts**, **Foglight4Model**, **Applications**, **All Models**, and **Dynamic Managed Components** tabs.



Use **Find**, **Clear**, and **Advanced** to locate a component. **Select All** and **Unselect All** quickly chooses the listed components that you want to add. To locate a component by name and type, click **Advanced**. You can also use regular expressions.

4 When you have chosen the components, click **Add**.

5 To add a new service, click **New Service**, and then enter a name and description for the service.

The service is added to the component that you chose in step 1.

Adding Dynamic Managed Components

Using the Service Builder dashboard, you can dynamically manage components by specifying a rule for adding objects to a service so that the default service is created or updated when certain data arrives. Therefore, if a component is added or removed, the default service is automatically updated to handle addition or removal of the component from the service.

For example, if you are monitoring an application that runs four WebLogic servers, you can create a service and specify a rule to add WebLogic server instances for a particular domain so that the service is updated when more servers are added or deleted. After adding the rule, you can see that the new WebLogic servers appear automatically in the service after four more WebLogic servers were added. Likewise, if the original four WebLogic instances running on Windows are decommissioned, they automatically disappear from the service.

In another example, if you create a service called “FX” on the infrastructure that monitors a webservice, you can create a rule to include another infrastructure that is used for extra capacity during peak times. When the other infrastructure for high capacity is used, it shows up in the service.

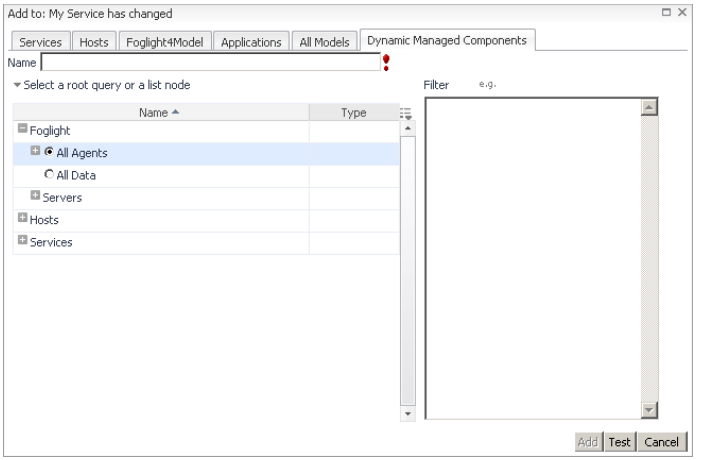
To add a dynamic managed component:

1 From the navigation panel, under **Dashboards**, click **Services** > **Service Builder.**

2 Drill-down to the appropriate service or category and click **Add** in the Actions column.

3 In the Add to: dialog, click the **Dynamic Managed Components** tab.

4 Type a **Name** for the query.

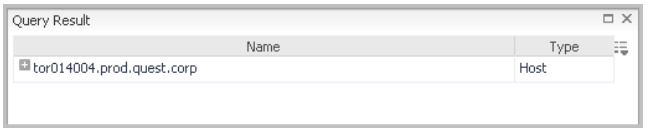


5 Select a root node for the query. For example, click Hosts > All Hosts.

6 In the **Filter** box, type a query such as:

```
name like '%.prod.quest.corp'
```

7 Click **Test** and confirm that it comes up with one entry for the query result.



8 Click **Add**. At this point you should see a new dynamic managed component appear under the service that is associated with one host.

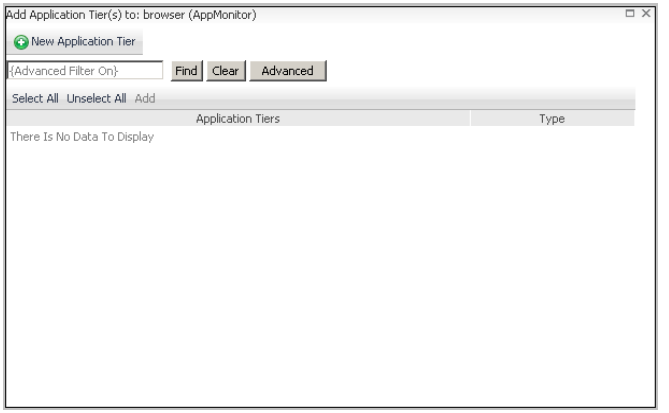
Adding an Application Tier

When you create an application using Application Builder or Service Builder, you specify the application tier that you want to use. In the Service Builder dashboard you can also do this when you build an application.

To add an application tier:

1 Click **Add** for the application topology component for which you want to add a tier.

The Applications Tier dialog box appears.



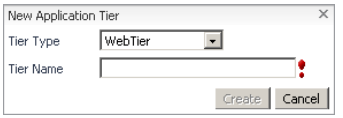
2 From here you can create a new application tier or select from a list of application tiers that are already in use by other monitored applications.

3 From the Application Tiers list, click **Add** beside the tiers you want to add to the selected application

or

If you want to create a new tier, click New Application Tier .

The Tier Creator dialog box appears.



4 Select the type of tier you want to create from the drop-down list.

5 Type a name for the tier and click **Create**.

The name of the new tier is added to the Application Tiers list.

6 Use **Find**, **Clear**, and **Advanced** to locate an application tier. To locate a tier by name and type, click **Advanced**. You can also use regular expressions.

7 Continue to add tiers to the application.

After you have added all tiers, you can then add other components to the tier by following the steps outlined in "Building a Service" on page 98.

Removing a Service, Category, Monitored Component, or Tier

You can remove a service, category, tier, or a monitored component from its related service.

To remove a service, category, monitored component, or tier:

1 Click **Remove** for the service, category, tier, or monitored component that you want to remove.

From the popup, choose whether you want to remove either the selected item, or the monitored components in the selected item.

Note Depending on the component that you select, you may not receive a popup but instead are prompted to confirm the deletion. Click **Confirm** to remove the item.

2 If you want to remove monitored components, you are prompted to select the components that you want to remove. Use **Select All** and **Unselect All** to quickly choose the components.

3 After you have selected the components, click **Remove**.

You are prompted to confirm the deletion.

4 Click **Confirm** to continue.

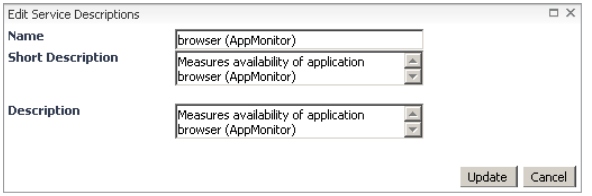
Editing a Service Name

By clicking the Edit button on the Service Builder dashboard and Services dashboard, you can rename an existing service without having to delete and recreate the service. This means that all history for a service is retained, such as the performance of the systems to suit your needs. For example, if you create 50 services but then you need to change the name of the service due to a spelling error you can change the service name without losing service data information.

To edit a service name:

1 On the Service Builder dashboard, click **Edit** for the service name you want to change.

The Edit Service Descriptions dialog box appears.



2 Change the name and click **Update**. The service name is changed but the service state is not altered.

Editing a Service Description

You can change the service description that is displayed when you hover over a service that is listed on a dashboard.

To edit a service description:

1 Click **Edit** for the service you want to edit.

The Edit Service Descriptions dialog box appears.

2 Modify the descriptions and then click **Update**.

Filtering Alarms

Alarm filters can be defined for any service or application tier instance in the Service Builder. You can use alarm filters to specify alarms that are relevant to a given service as a way to keep an irrelevant alarm from falsely causing a service outage, rather than have all alarms impact the state of a service.

For example, alarm filtering can be used to ignore a certain state for a component with a high CPU usage. vFoglight is monitoring an application that runs on a Weblogic server and you create a service called "Retail" that includes the server and the host. The "Retail" service is shown as being unavailable when the host has a CPU usage greater than 90%. However, generally this is not considered a true service outage for this

service. If you look at the host alarms none of the alarms apply to the Retail service. As a result, you can use an alarm filter to filter out all host rules.

In another example, you can use an alarm filter to ignore the state of a service that appears as unavailable when the file system component for the D: drive fills up. vFoglight is monitoring an application that uses a host for the Siebel database and you want to filter out the Oracle database. The database is configured so that it uses only the C: drive, not the D: drive. A service was created to monitor the application that includes the Oracle agent and the host instance for the Oracle host. However, the service shows as unavailable if the D: drive fills up. Since the D: drive does not contribute to the availability of the application, you should add an alarm filter to exclude the monitoring of the D: drive. You can restrict the filter by choosing the FileSystem alarm, then specifying a Groovy script to refine the filter to apply only to the D: drive.

Adding an Alarm Filter

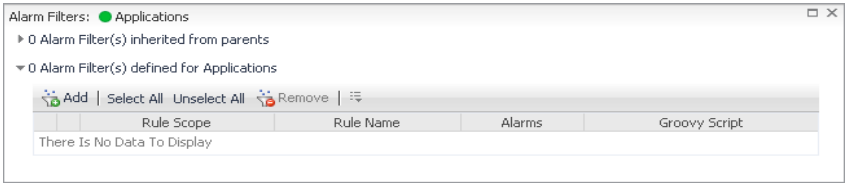
By specifying an alarm filter, you can decide what alarms impact the availability of a service.

To add an alarm filter:

1 From the navigation panel, under **Dashboards**, click **Services** > **Service Builder**.

2 Drill-down to the component and click the **Alarm Filters** button.

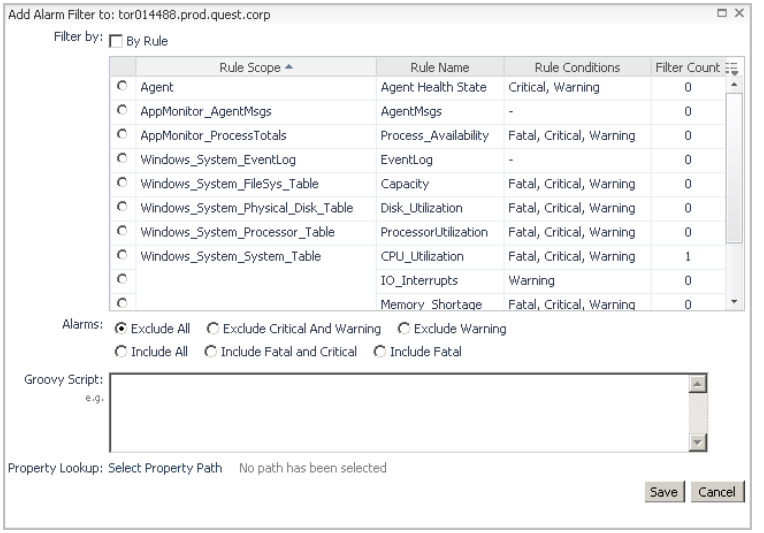
The Alarm Filters dialog shows alarms inherited from parents of the current service.



Note Alarm filters can be defined for two nested services. Alarm filters work the same way regardless they are nested or not. Even though a set of alarms is not filtered out by the alarms' immediate parents, the set of alarms are eventually filtered out by an alarm filter defined for one of the alarms' parents further up the hierarchy of nested services.

3 You can select an existing filter from the list or click Add to add a new filter.

The Add Alarm Filter dialog appears.



4 Select one or more filtering options:

- **By Rule**—select the By Rule check box and choose a rule to monitor one or more of the nested children added to the service. You can define more than one alarm filter for the same rule.
- **Alarms**—select the state of alarms to include or exclude:

  - **Include**: all alarms are excluded except those specified in the include filters.
  - **Exclude**: all alarms are included except those specified in the exclude filters.
  - If both Include and Exclude filters are defined: include alarms that are specified in the Include filters as long as they are not excluded by the Exclude filters.
- **Groovy Script**—an optional script used to refine the filtering. An alarm is the only required input, meaning you can filter on anything that is referenced by the alarm. An example of a groovy script is: @alarm.get('topologyObject').getType().getName() == 'Windows_System_System_Table'

5 Click **Save**.

The filter is saved on the Alarm Filters list.

Deleting an Alarm Filter

To delete an alarm filter:

1. Drill down to the component from the Service Builder dashboard and click the **Alarm Filters** button.
2. In the Alarm Filters dialog, select the filter and click Remove.

Example: Filter fatal alarms fired by the Processor Utilization rule

For example, to include only alarms fired on Processor 0 by the CPU_Utilization rule, you select the following parameters in the Alarm Filters dialog box:

- By rule: CPU_Utilization
- Alarms: Include All
- Groovy script: @alarm.get('topologyObject').get('longName') == 'Processor_Table 0')

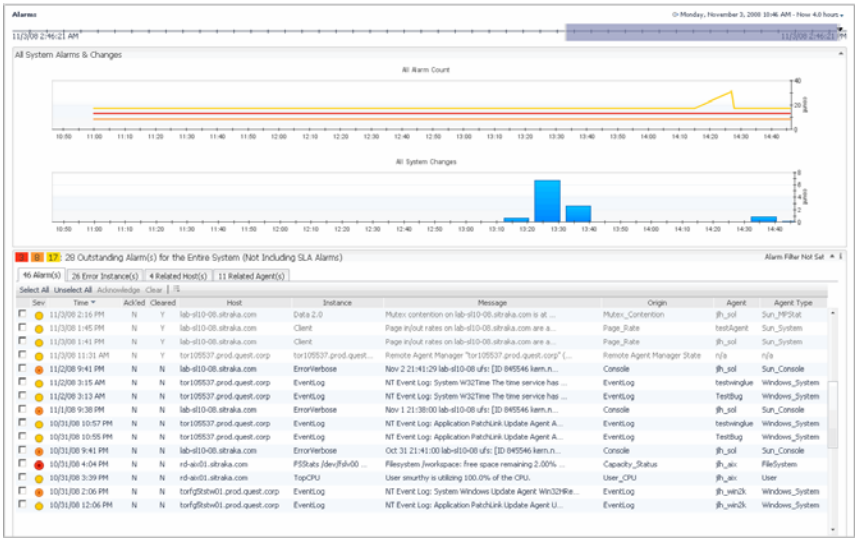
Monitoring System-Wide Alarms

Unlike the alarms displayed on the Services dashboard which show only those alarms for a selected service, the Alarms dashboard is useful for viewing the state of all alarms across the entire vFoglight installation and allows you to take immediate action on them. It also shows the alarm count by time, so that alarm storms or outage events can be identified.

To monitor system-wide alarms:

- From the navigation panel, under **Dashboards**, select **Alarms** > **Alarms**.

  The Alarms dashboard appears.



The Alarms dashboard has two views that display data for the time range indicated at the top right of the dashboard. For information about changing the time range, see “Time Range” on page 39.

- All System Alarms and Changes
- Outstanding Alarm(s) for the Entire System

All System Alarms and Changes

This view contains charts that summarize the alarm and change activity for the current time range. Hovering over a line or bar in a chart produces a tooltip with details about the alarm or change that occurred nearest to that time.

Outstanding Alarm(s) for the Entire System

This common view lists in a table all the alarms for the current time range, except SLA alarms. The current time range can be fixed as described in “Freezing a time range” on page 40.

The totals for each level of alarm, and the total number of alarms in the table, are in the upper left corner of the view. You can filter the list, sort it by column, and acknowledge and clear alarms in this view.

You can see more detailed information about an alarm by hovering over or clicking a column to display a dwell or a popup. The content of the dwells and popups varies according to the column you choose.

For information on working with the different alarm views, refer to “Alarm List” on page 46.

5

Monitoring Agents and Hosts

This section describes how to view monitor agents and hosts. Several dashboards are available in vFoglight to help you with this activity.

This chapter contains the following sections:

Overview 110
Viewing Agents 110
Viewing Host Performance 112
Viewing Host Details 116

Overview

Agent and host dashboards are monitored by Operators (for example, Unix System Operators) whose primary responsibility is availability of those hosts. From these dashboards you can perform the following tasks:

- Viewing Agents
- Viewing Host Performance
- Viewing Host Details

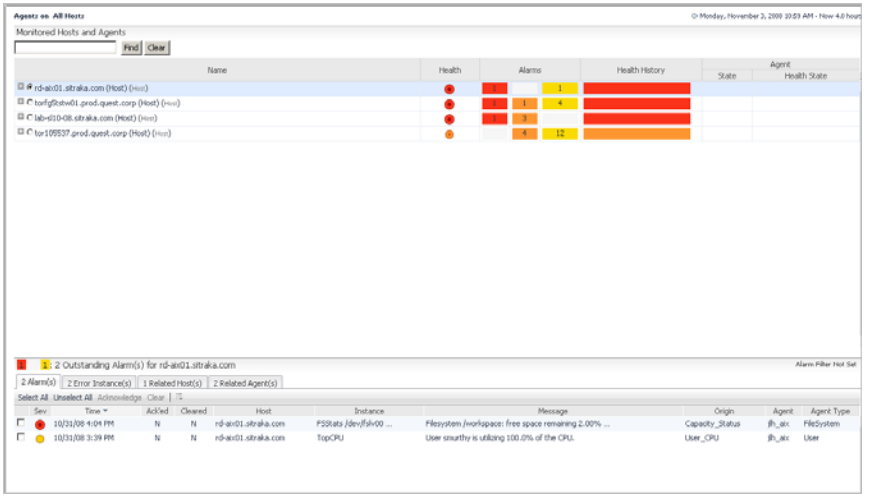
Viewing Agents

The Agents dashboard lists the agents that are available for each host. It is useful for monitoring from the perspective of hosts and agents. If you want to look at agents and the hosts where they are running, you will find this the most helpful dashboard.

To get started monitoring agents:

- From the navigation panel, under **Dashboards**, click **vFoglight** > **Agents**.

  The Agents on All Hosts dashboard appears.



The Monitored Hosts and Agents and the Outstanding Alarms views are displayed. Drilldowns for each of the columns on this dashboard are explained below.

Drilldowns for the Agents on All Hosts View

Select	To display
Agent or a host	a popup that provides a summary of the host, service, or application. This summary includes the number of alarms by severity, health status, and related links. This is a common view in vFoglight. For a description of the host summary popup, refer to “Host Summary” on page 62.
Health icon	links to: • health of all alarm sources • health of current alarm source • all outstanding alarms for that alarm source
Alarm icon	a list of alarms for components that are being monitored. This is a common view in vFoglight. For further information, refer to “Alarm List” on page 46.
Health History	a popup that focuses on the state history of a host condition such as OK, warning, critical, or fatal.
State	a popup that allows you to activate or deactivate the agent as well as start and stop data collection.
Health State	alarms for the host or agent selected in the Monitored Hosts and Agents view. This is a common view in vFoglight. For further information, refer to “Alarm List” on page 46.

Tip Hovering over a column displays a dwell with more detailed information.

You can filter the hosts by clicking Service Selector in the action panel to open the Service Selector dialog. For more information on working with the Service Selector, refer to “Examining Details on a Single Service” on page 93.

Viewing Host Performance

You can view the performance of:

- a single host
- all monitored hosts
- hosts in real-time

Viewing Performance of a Single Host

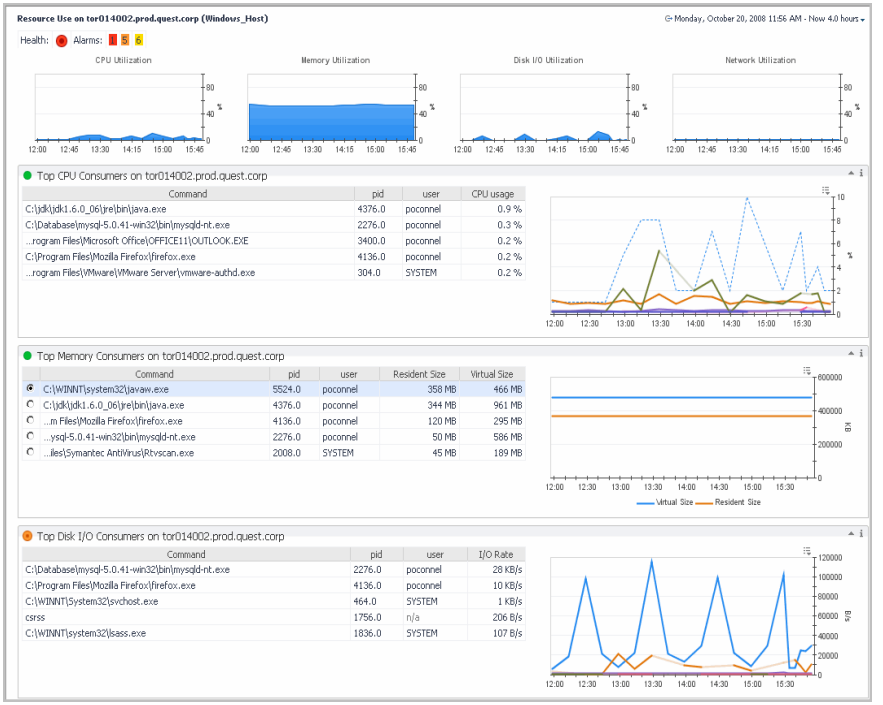
The Host Resource dashboard provides a detailed full-page view of the performance of a single host. It contains charts and tables that provide details about CPU, memory, disk I/O, and network utilization.

This dashboard shows more current and historical information than the Host Monitor dashboard, which is more like a real-time monitor.

To view the performance of a single host:

1 From the navigation panel, under **Dashboards**, click **Hosts** > **Host Resource**.

The Host Resource dashboard appears.



The name of the current host is at the top left of the dashboard. To see data for another host, click **Host Selector** in the action panel to open the Host Selector dialog, where you can choose another host.

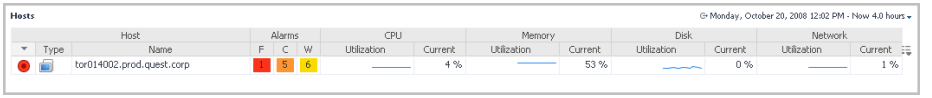
Viewing Performance on All Monitored Hosts

The Hosts Table dashboard is the best high-level summary of host performance. It summarizes information on alarms and CPU, memory, disk, and network utilization for active hosts. This dashboard is useful for monitoring from a host perspective, especially where there is a large number of hosts.

To view the performance on all monitored hosts:

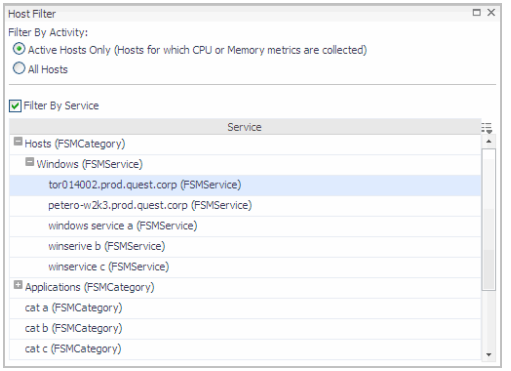
- From the navigation panel, under **Dashboards**, click **Hosts** > **Hosts**

  The Hosts Table dashboard appears.



You can remove one or more of the columns in the table by clicking the edit icon at the right-hand end of the title bar to open a list of columns, where you can de-select the column(s) that you want to remove.

You can filter the list of hosts by clicking **Host Filter** in the action panel to open the Host Filter dialog.



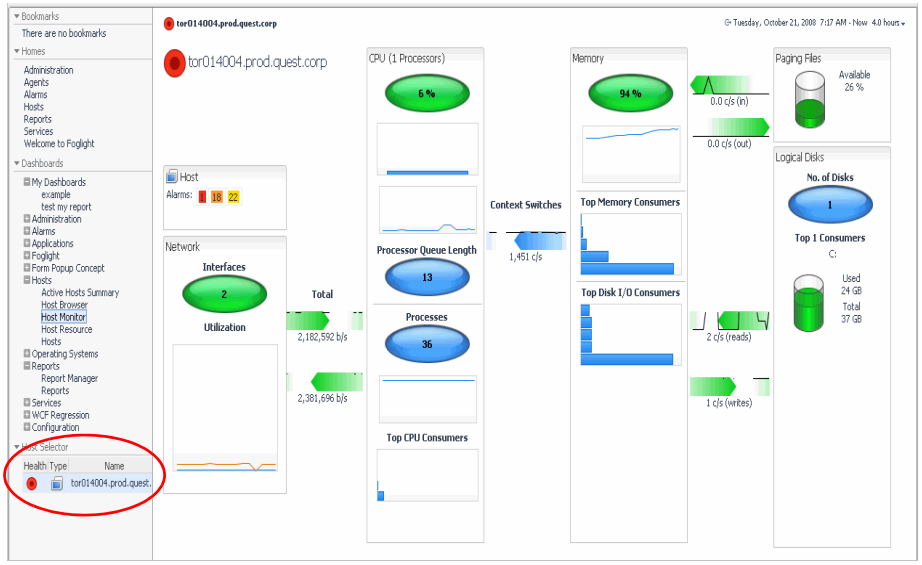
You can choose to display all hosts or only active hosts and filter the information from each host by service.

Viewing Real-Time Performance

The Host Monitor dashboard provides a real-time overview of how a host is functioning. The name of the current host is at the top left of the dashboard. The state of the various components is indicated by colors (see “State Icons” on page 83 for details). Discs with stateless metrics are displayed in blue.

To view real-time performance of hosts:

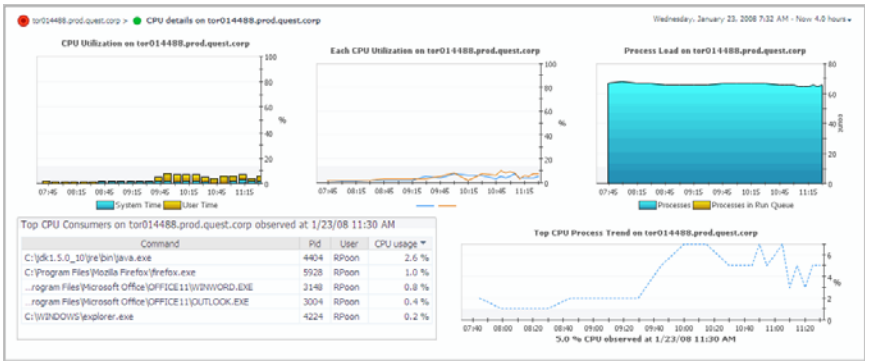
1. From the navigation panel, under **Dashboards**, click **Hosts** > **Host Monitor.**
2. To select a host to view in the host monitor, select the host from the Host Selector menu at the bottom of the navigation panel on the left.



Drilling Down to Detail Views

The dwells in this dashboard are mostly charts, such as the one in the Host Monitor dashboard. This dashboard also has a number of areas from which you can drill down to more detailed dashboards.

For example, clicking the Processes button in the CPU view takes you to a dashboard that displays detailed information about CPU utilization and processes for the current host, as shown below.



Hovering over a line or area in a chart displays a tooltip with data for the nearest time.

Viewing Host Details

You can view details on:

- a single host
- a host (in portlet format)

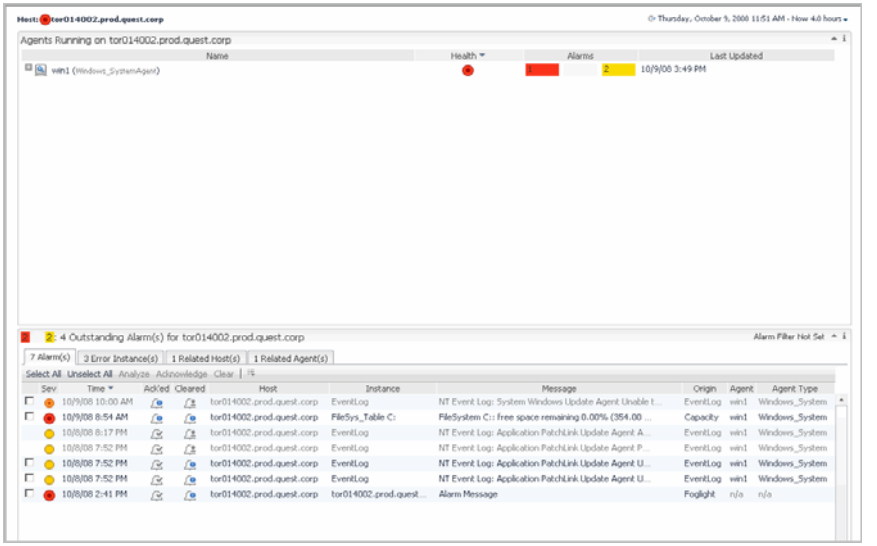
Viewing Details on a Single Host

The Host Browser dashboard is similar to the Agents browser, except that it shows the agents for only one host at a time. It contains two views: Agents Running on <*host*> and Outstanding Alarm(s) for <*host*>.

To view details on a single host:

- From the navigation panel, under **Dashboards**, click **Hosts** > **Host Browser**.

  The Host Browser dashboard appears.



The name of the current host is at the top left of the dashboard. To see data for another host, click **Host Selector** in the action panel to open the Host Selector dialog, where you can choose another host.

The Outstanding Alarms view displayed at the bottom half of the dashboard is a common view in vFoglight. For further information, refer to “Alarm List” on page 46.

Viewing Host Details in Portlet Format

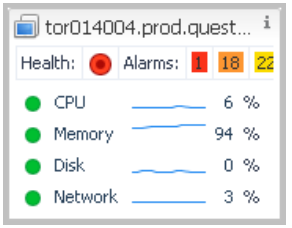
The Active Hosts Summary dashboard displays information about each active host in a separate view. This dashboard is useful when you have a small number of hosts and want to see a visual summary of them.

To view host details in portlet format:

1 From the navigation panel, under **Dashboards**, click **Hosts** > **Active Hosts Summary**.

The Active Hosts Summary dashboard appears.

Note A host becomes active when its memory usage is greater than 0%.



If you have a large number of hosts, you can use the Hosts Table dashboard, or use the Host Summary as a portlet in a custom dashboard and configure custom dashboards for each set of hosts.

6

Monitoring the vFoglight Management Server

The vFoglight Management server is used to perform tasks such as host data sent from agents, run rules, and provides web-based UI access for monitoring servers. The vFoglight Management Server also contains various tools to monitor database schema and data objects and view diagnostic dashboards.

This chapter contains the following sections:

Overview 120
Viewing Logs 120
Viewing Performance-related Dashboards 122
Inspecting Object Types 129
Cleaning up Data Objects 131
Selecting Metrics to Compare 132
Viewing Server Metrics 135
Looking at Server Details 137
Viewing MySQL Database Details 138
Viewing Persistence Handler Details 139

Overview

The vFoglight module contains various tools to monitor schema and data objects as well as to monitor the vFoglight Management Server.

The vFoglight module contains the following dashboards and group of dashboards:

- Agents
- Diagnostic (Log Analyzer dashboard and Performance-related dashboards)
- Schema Browser
- Servers (vFoglight Management Server, MySQL database, Persistence Handler)

Viewing Logs

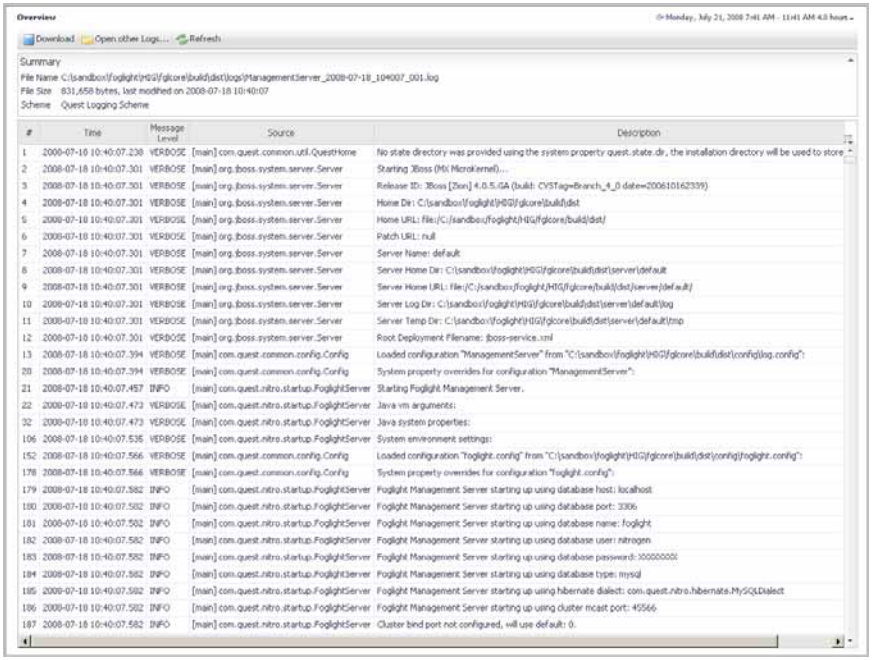
You can display multiple log files in vFoglight to view and analyze known events and error conditions such as verbose or informational type of messages. The Log Analyzer dashboard enables you to navigate, view, and download logs. The time, level, source, and description of log messages is displayed for logs you view in this dashboard.

To view logs:

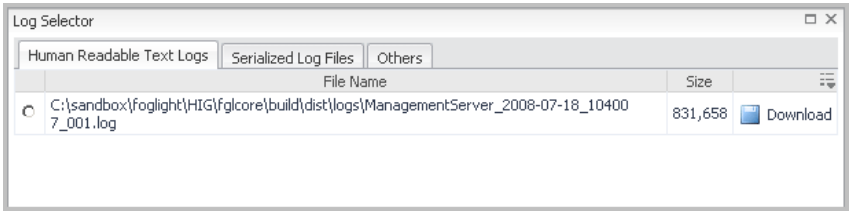
1 On the navigation panel under **Dashboards**, click **vFoglight** > **Diagnostic** > **Log Analyzer** > **Overview**.

Note You can also access the Log Analyzer dashboard through the Administration dashboard if you have access to the vFoglight Administration functions. On the navigation panel, under Dashboards, click **Administration** > **Administration**. In the Navigation view, under Tooling and Diagnostics, click **Server Log Overview**.

The vFoglight Log overview dashboard appears.


Overview
Download
Open other Logs...
Refresh
Summary
File Name C:\sandbox\foglight\HIG\fglcore\build\dist\logs\ManagementServer_2008-07-18_104007_001.log
File Size 831,658 bytes, last modified on 2008-07-18 10:40:07
Scheme Quest Logging Scheme
Time Message Level Source Description
1 2008-07-18 10:40:07.238 VERBOSE [main] com.quest.common.util.QuestHome No state directory was provided using the system property quest.state.dir, the installation directory will be used to store
2 2008-07-18 10:40:07.301 VERBOSE [main] org.jboss.system.server.Server Starting JBoss (Mx Microkernel)...
3 2008-07-18 10:40:07.301 VERBOSE [main] org.jboss.system.server.Server Release ID: JBoss [Zion] 4.0.5.GA (build: CVSTag=Branch_4_0 date=200610162339)
4 2008-07-18 10:40:07.301 VERBOSE [main] org.jboss.system.server.Server Home Dir: C:\sandbox\foglight\HIG\fglcore\build\dist
5 2008-07-18 10:40:07.301 VERBOSE [main] org.jboss.system.server.Server Home URL: file:/C:/sandbox/foglight/HIG/fglcore/build/dist/
6 2008-07-18 10:40:07.301 VERBOSE [main] org.jboss.system.server.Server Patch URL: null
7 2008-07-18 10:40:07.301 VERBOSE [main] org.jboss.system.server.Server Server Name: default
8 2008-07-18 10:40:07.301 VERBOSE [main] org.jboss.system.server.Server Server Home Dir: C:\sandbox\foglight\HIG\fglcore\build\dist\server\default
9 2008-07-18 10:40:07.301 VERBOSE [main] org.jboss.system.server.Server Server Home URL: file:/C:/sandbox/foglight/HIG/fglcore/build/dist/server/default/
10 2008-07-18 10:40:07.301 VERBOSE [main] org.jboss.system.server.Server Server Log Dir: C:\sandbox\foglight\HIG\fglcore\build\dist\server\default\log
11 2008-07-18 10:40:07.301 VERBOSE [main] org.jboss.system.server.Server Server Temp Dir: C:\sandbox\foglight\HIG\fglcore\build\dist\server\default\tmp
12 2008-07-18 10:40:07.301 VERBOSE [main] org.jboss.system.server.Server Root Deployment Filename: jboss-service.xml
13 2008-07-18 10:40:07.394 VERBOSE [main] com.quest.common.config.Config Loaded configuration "ManagementServer" from "C:\sandbox\foglight\HIG\fglcore\build\dist\config\log.config":
20 2008-07-18 10:40:07.394 VERBOSE [main] com.quest.common.config.Config System property overrides for configuration "ManagementServer":
21 2008-07-18 10:40:07.457 INFO [main] com.quest.nitro.startup.FoglightServer Starting Foglight Management Server.
22 2008-07-18 10:40:07.473 VERBOSE [main] com.quest.nitro.startup.FoglightServer Java vm arguments:
32 2008-07-18 10:40:07.473 VERBOSE [main] com.quest.nitro.startup.FoglightServer Java system properties:
106 2008-07-18 10:40:07.535 VERBOSE [main] com.quest.nitro.startup.FoglightServer System environment settings:
152 2008-07-18 10:40:07.566 VERBOSE [main] com.quest.common.config.Config Loaded configuration "foglight.config" from "C:\sandbox\foglight\HIG\fglcore\build\dist\config\foglight.config":
178 2008-07-18 10:40:07.566 VERBOSE [main] com.quest.common.config.Config System property overrides for configuration "foglight.config":
179 2008-07-18 10:40:07.582 INFO [main] com.quest.nitro.startup.FoglightServer Foglight Management Server starting up using database host: localhost
180 2008-07-18 10:40:07.582 INFO [main] com.quest.nitro.startup.FoglightServer Foglight Management Server starting up using database port: 3306
181 2008-07-18 10:40:07.582 INFO [main] com.quest.nitro.startup.FoglightServer Foglight Management Server starting up using database name: foglight
182 2008-07-18 10:40:07.582 INFO [main] com.quest.nitro.startup.FoglightServer Foglight Management Server starting up using database user: nitrogen
183 2008-07-18 10:40:07.582 INFO [main] com.quest.nitro.startup.FoglightServer Foglight Management Server starting up using database password: 00000000
184 2008-07-18 10:40:07.582 INFO [main] com.quest.nitro.startup.FoglightServer Foglight Management Server starting up using database type: mysql
185 2008-07-18 10:40:07.582 INFO [main] com.quest.nitro.startup.FoglightServer Foglight Management Server starting up using hibernate dialect: com.quest.nitro.hibernate.MySQLDialect
186 2008-07-18 10:40:07.582 INFO [main] com.quest.nitro.startup.FoglightServer Foglight Management Server starting up using cluster mcast port: 45566
187 2008-07-18 10:40:07.582 INFO [main] com.quest.nitro.startup.FoglightServer Cluster bind port not configured, will use default: 0.

- To view the list of log messages in this dashboard, click Open other Logs.... In the Log Selector dialog select the server.



- To download a log, select the appropriate log from the Log Overview dashboard and click Download to open and view the log messages.

Viewing Performance-related Dashboards

vFoglight includes a set of diagnostic dashboards which are useful for analyzing the performance of a vFoglight Management Server as well as diagnosing problems relating to the Management Server, agents, database, etc.

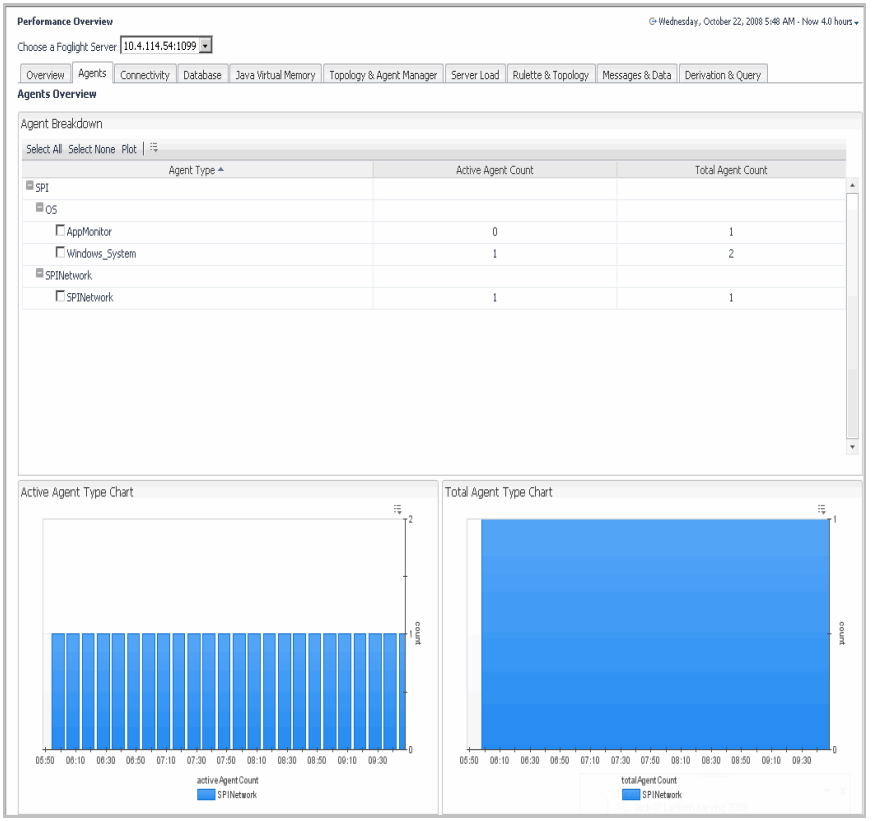
The following performance-related dashboards are available:

- **Overview Tab**

  Displays database activity, data service performance, JVM performance and server load on one dashboard.

- **Agents Tab**

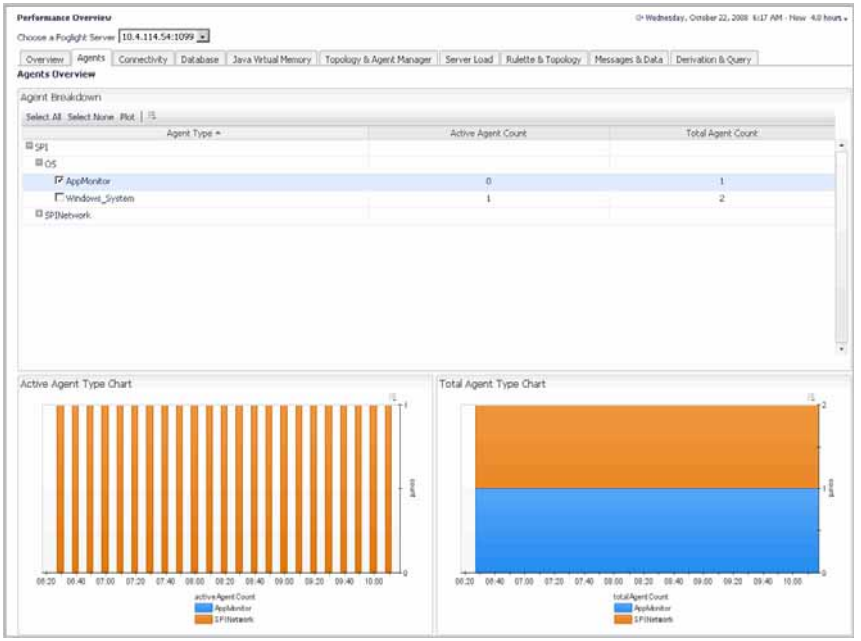
  Displays a list of agents by type. This dashboard is useful for understanding the agents connected to the management server. Select the Plot feature to view the appropriate agent connectivity.



To plot agent connectivity:

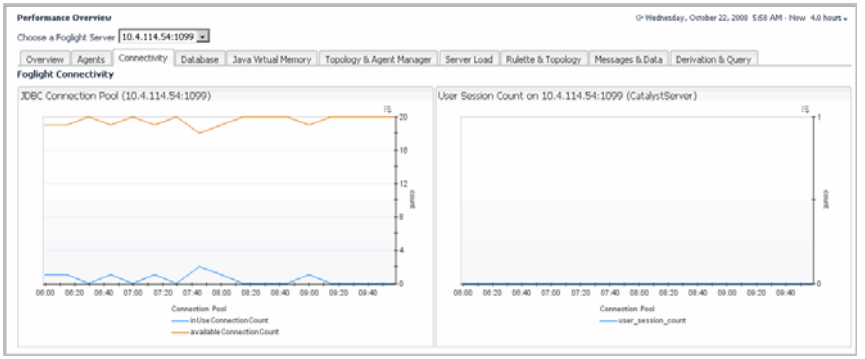
1. In the Plot tab, drill-down to the agent type.
2. Select the check box for the agent that you want to plot. Alternatively, click **Select All**, to view all agent types.
3. Click **Plot** from the menu.

   The connectivity charts for the selected agent appears:



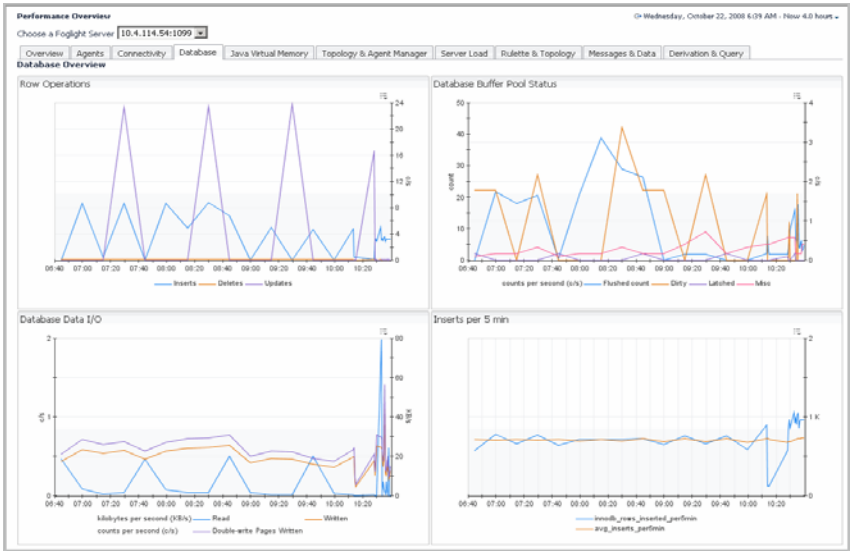
- **Connectivity Tab**

  Shows the vFoglight connectivity for the JDBC Connection Pool and the User Session count.



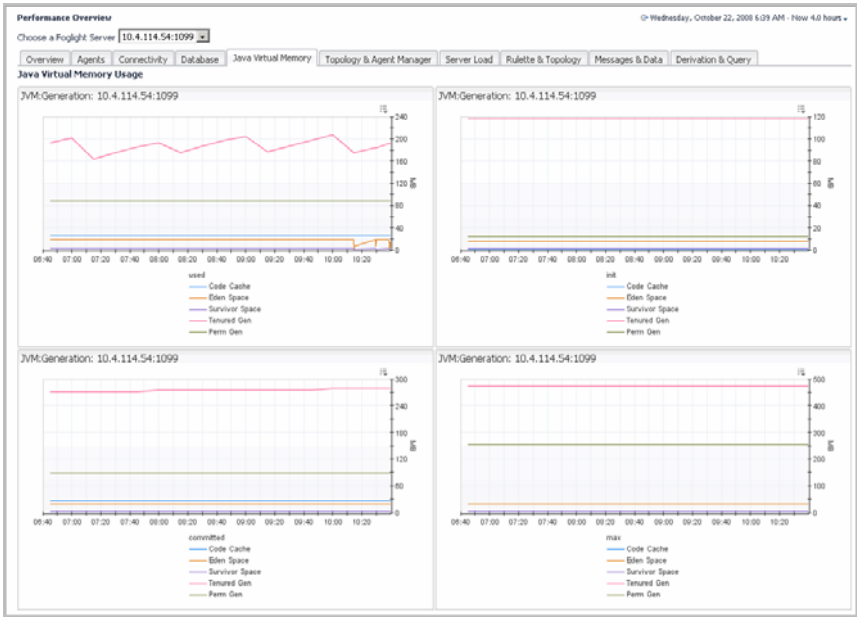
- **Database Tab**

  Shows database activity such as data Input/Output, database buffer pool, and the number of inserts/deletes.



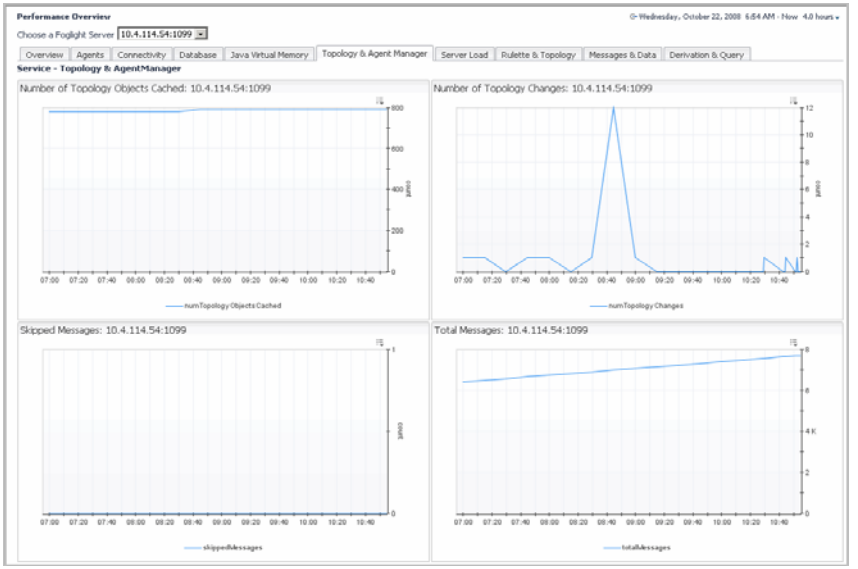
- **Java Virtual Memory Tab**

  Contains information on Java Virtual Memory such as usage, initialization, committed, and maximized.


Performance Overview
Wednesday, October 22, 2008 6:09 AM - Now 4.0 hours
Choose a Foglight Server: 10.4.114.54:1099
Overview
Agents
Connectivity
Database
Java Virtual Memory
Topology & Agent Manager
Server Load
Rulette & Topology
Messages & Data
Derivation & Query
Java Virtual Memory Usage
JVM:Generation: 10.4.114.54:1099
used
init
committed
max
Code Cache
Eden Space
Survivor Space
Tenured Gen
Perm Gen
MB

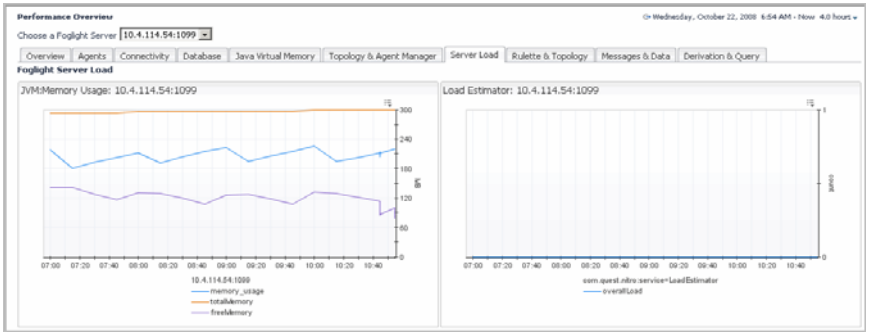
- **Topology and Agent Manager Tab**

  Shows the number of topology changes, skipped messages, and total messages. This dashboard is useful for understanding the topology structure relating to agent activity.



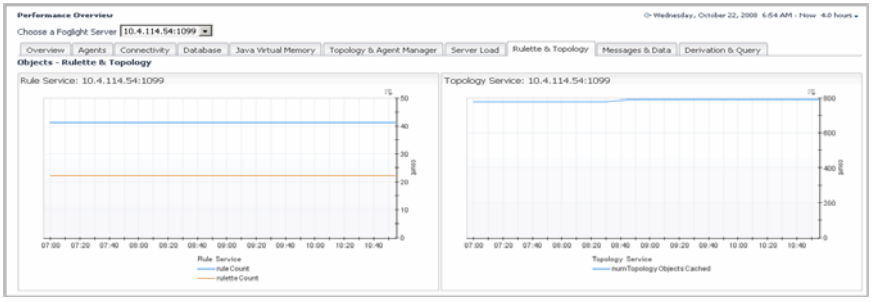
- **Server Load Tab**

  Shows vFMS load metrics and JVM performance.



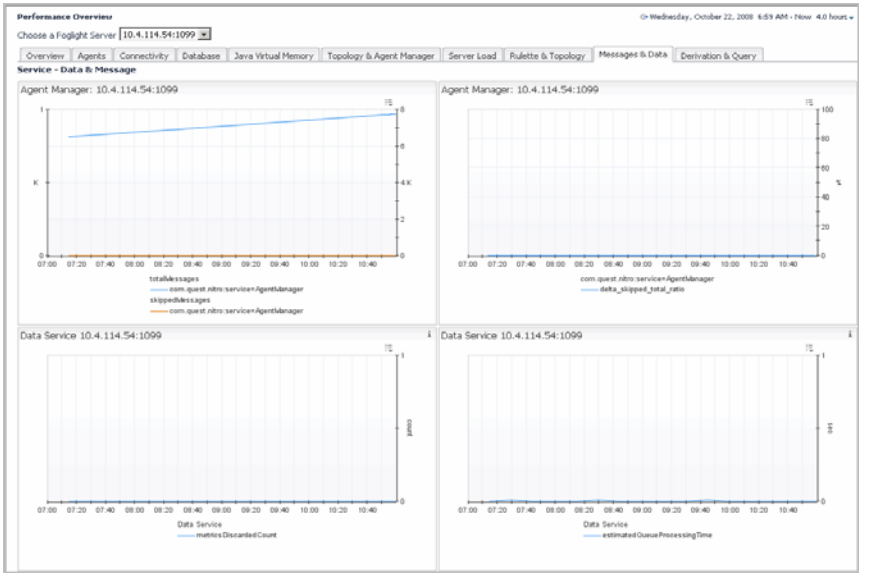
- **Rulette and Topology Tab**

  Shows the number of rulettes and the number of topology objects in the vFoglight Management Server. This dashboard is useful for understanding model complexity.



- **Messages and Data Tab**

  Highlights whether data and metrics are being processed in time or getting discarded.

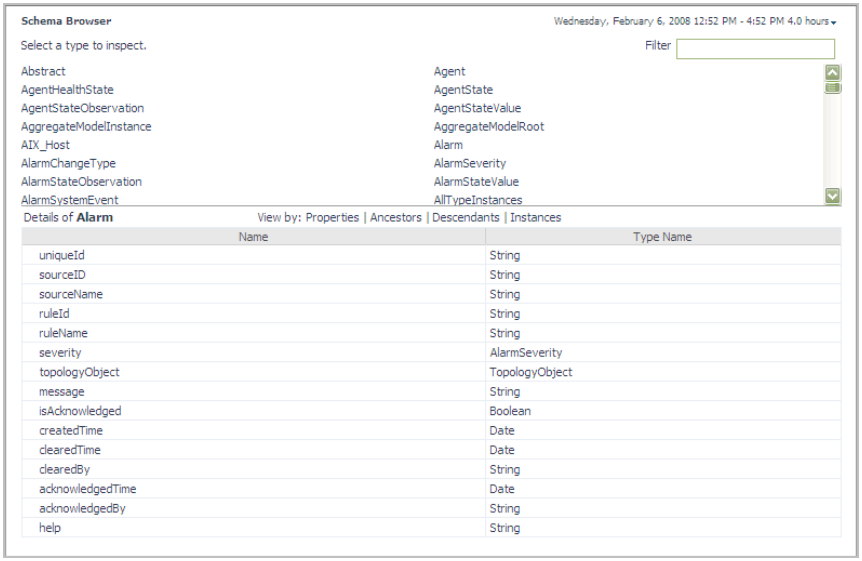


- **Derivation and Query Tab**

  Shows activity in the derivation and query service such as the number of evaluations, rulettes, errors, and cache performance.

Inspecting Object Types

Use the Schema Browser dashboard located in **vFoglight** > **Schema** to view information about data object types such as check which types are available, search for specific types, understand the relationship between types, and view instances of a particular type.



Viewing a Data Object

The Schema Browser dashboard allows you to browse through the vFoglight Management Server connections and view the structure of the database and the schema objects to understand the structure and dependencies of the objects.

To view an object:

1. On the navigation panel, under Dashboards, click **vFoglight** > **Schema** > **Schema Browser.**
2. Find the data type in the list.
   - To apply a filter to narrow down the search criteria, type a character in the **Filter** box (for example, “Host”) and press **Enter**.
   - To see the full list of data types, clear the **Filter** and press **Enter**.
3. When you select an object type, you can sort by various constituents of the object by using the **View by** options: **Properties**, **Ancestors**, **Decendants**, and **Instances**.

Cleaning up Data Objects

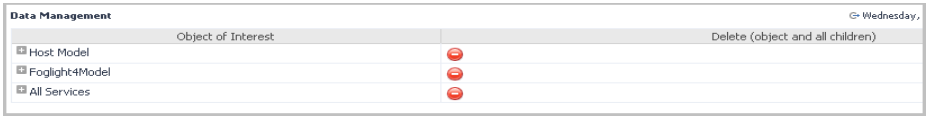
The vFoglight Data Management dashboard is useful for inspecting and deleting data objects, and particularly for cleaning up objects that are no longer needed. For instance, if a set of agents is no longer required, the objects created by those agents will still be visible in the user interface. Removing these objects can have a positive impact on the performance of vFoglight and ensure that only necessary information is maintained in the database.

As an example, deleting agent instances from the Services dashboard removes the agent definitions. However, you can still view the agent entries in other dashboards such as the dashboard for Oracle. To remove the agent entries from these dashboards, you need to delete the agents using the vFoglight Data Management dashboard to remove the services and OracleModel Instances that was created for the Oracle dashboard.

Deleting a Data Object

The Delete option removes an object and all of its children. If you delete an object that is still active, it will be re-created.

Note Metrics are always preserved and deleted as part of this topology maintenance operation.



To delete a data object:

1. On the navigation panel, under **Dashboards**, click **vFoglight** > **Servers** > **Data Management**.
2. Drill-down to the data object you want to delete.
3. Click **Delete** beside the object to remove the object and all of its children.
4. Click **Yes** to the “Are you sure you want to delete this object” confirmation message.

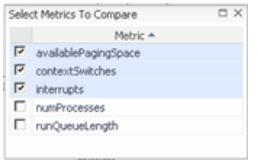
Selecting Metrics to Compare

You can select host metrics in the chart on the vFoglight Data Management dashboard to compare metric data in chart form.

To select other metrics to compare:

1. On the navigation panel, under **Dashboards**, click **vFoglight** > **Servers** > **vFoglight Data Management**.
2. Click a host object in the table to display a popup with additional information, such as the following:

3. Click **Select Metrics to Compare**.
4. If there is other data to display, select one or more metrics to display it in the chart.



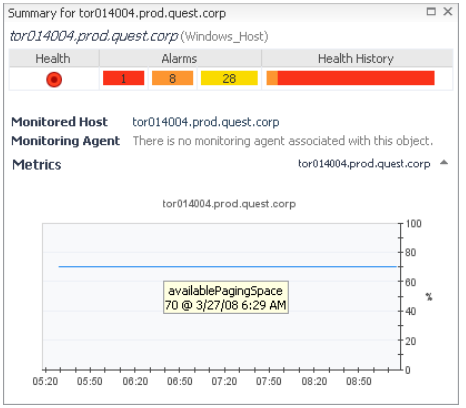
5. The selected metrics are displayed in the chart.

Adding Other Metrics to the Chart

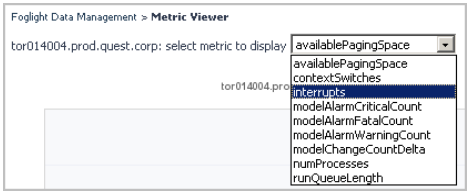
Using the Metric Viewer you can add other metrics to view in a chart. This Viewer also contains a table that lists the start and end times when data was collected and the average for each collection period.

To add other metrics to the chart:

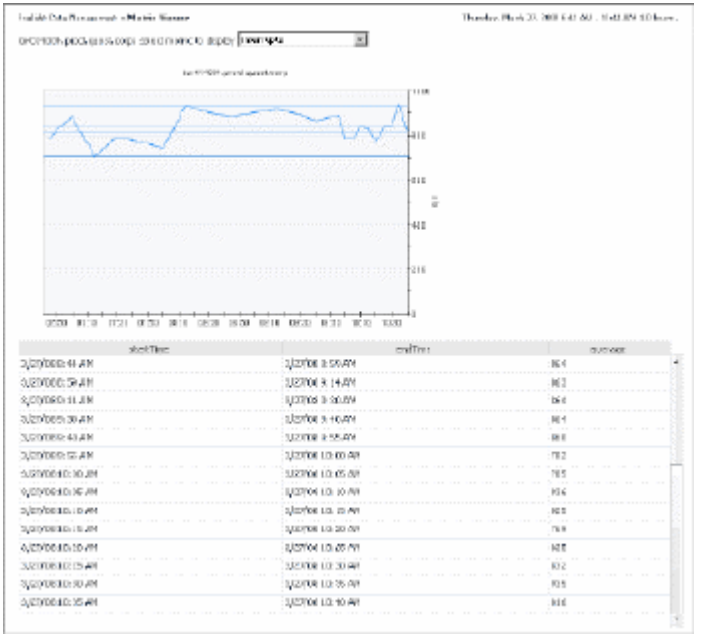
1. On the navigation panel, under **Dashboards**, click **vFoglight** > **Servers** > **vFoglight Data Management**.
2. Click a host object in the table to display a popup with additional information.
3. Click a line in the metrics chart to open the Metric Viewer.



4 To display another metric, select the metric from the drop-down list. For example, interrupts.



5 The selected metrics (i.e. availablePagingSpace and interrupts) displays in the chart.



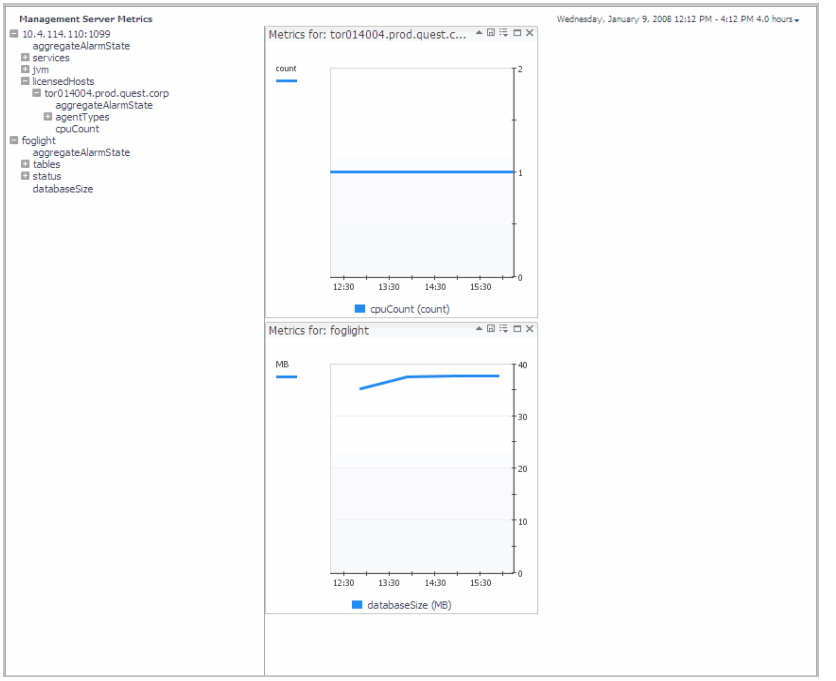
Viewing Server Metrics

The Management Server Metrics dashboard consists of a tree view and a display area. You can select a server or data object from the tree view and view the metrics of particular objects by drag and drop.

To view the vFMS metrics:

1. On the Navigation panel, under **Dashboards**, click **vFoglight** > **Servers** > **Management Server Metrics**.
2. Drill-down in the tree view to find the server or data object and drag it to the display area to view the data in the chart.
3. To choose the number of Columns to display the view, click 1, 2, or 3.

   Note When displaying charts, it is not recommended to use 3 columns since this can skew the presentation of data.



For details on viewing charts, see “Tooltips, Dwells, and Popups” on page 38.

Looking at Server Details

The Management Server View dashboard is useful for examining the performance of vFMS (vFoglight Management Server). You can also use this dashboard to look for root causes of performance problems with vFoglight.

To view details of the vFMS:

1. On the Navigation panel, under **Dashboards**, click **vFoglight** > **Servers** > **Management Server View**.
2. Choose a vFoglight Server from the drop-down list to display the various views.

The views display the following information:

- **Rule Service view**—shows the number of bound rulettes for processing rules and derived metrics. (For information about rulettes, see the *Administration and Configuration Guide*.)
- **Data Service view**—shows the ability of the server to keep up with incoming data.
- **JVM view**—shows the memory performance of the JVM running vFoglight.

- **JDBC Connection Pool view**—shows how many connections are in use at any time.
- **FSM Database Size view**—shows the size of the database.

The combination of these five views gives a good overview of the performance of the vFoglight environment.

For details on viewing charts, see “Tooltips, Dwells, and Popups” on page 38.

Viewing MySQL Database Details

The MySQL Database Overview dashboard contains charts that display data about the embedded or external MySQL database.

Note If you are using an external Oracle database, the views in this dashboard will be blank.

To view the MySQL database details:

1 In the navigation panel, under **Dashboards**, click **vFoglight** > **Servers** > **MySQL Database Overview**.

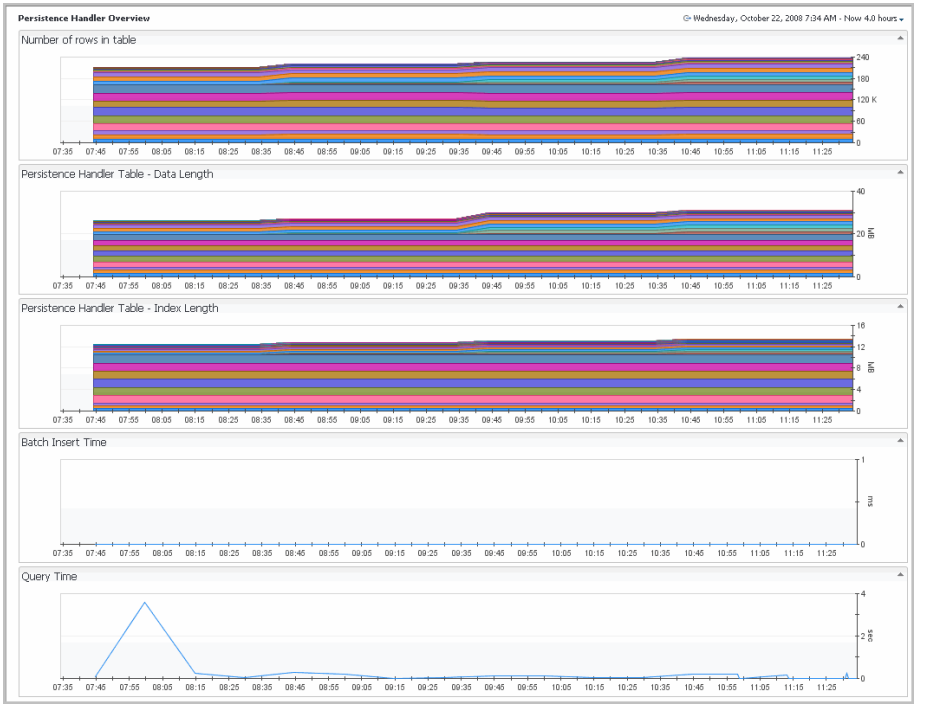
2 Consult the views on this dashboard, which display the following information:

- Row Operations
- Database Buffer Pool Status
- Database Data I/O
- Database Pare I/O

For details on viewing charts, see “Tooltips, Dwells, and Popups” on page 38.

Viewing Persistence Handler Details

The Persistence Handler Overview dashboard contains charts that display information about the persistence handler such as the number of rows in the table, data length, index length, batch insert time, and query time.


Persistence Handler Overview
Wednesday, October 22, 2008 7:34 AM - Now 4.0 hours
Number of rows in table
Persistence Handler Table - Data Length
Persistence Handler Table - Index Length
Batch Insert Time
Query Time

To view details on the Persistence Handler Dashboard:

1. In the navigation panel, under Dashboards, click **vFoglight** > **Servers** > **Persistence Handler**.
2. Consult the views on this dashboard, which display the following information:
   - Number of rows in the table
   - Size of the table
   - Batch insert time
   - Query time

For details on viewing charts, see “Tooltips, Dwells, and Popups” on page 38.

7

Working with Applications

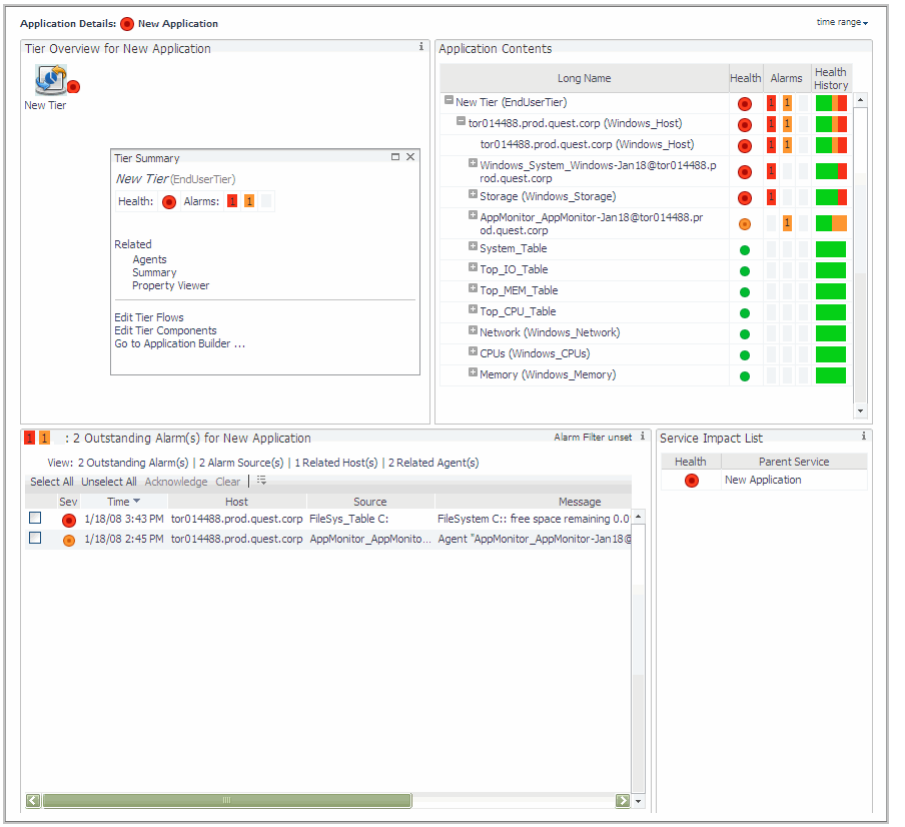
This section describes the Applications module dashboard.

This chapter contains the following sections:

Monitoring an Application 142
Building an Application 143

Monitoring an Application

You use the Application Details dashboard to monitor the details of a single application. It shows the structure of the application (tiers and flows), as well as the alarms for the application and its service impact.



The following views appear on the Application Details dashboard:

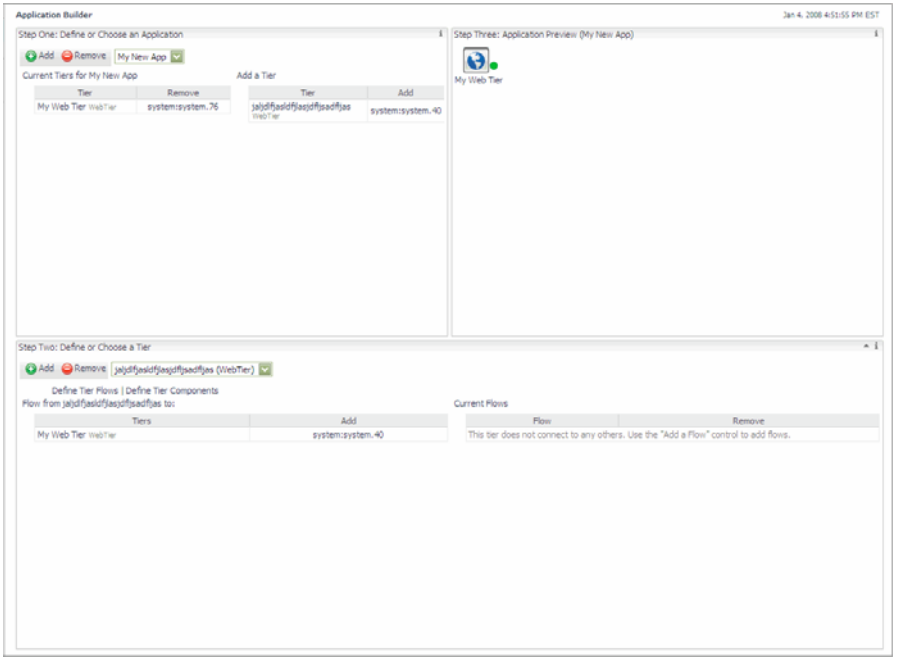
- **Tier Overview** view contains an icon for each tier. Clicking an icon opens a view with details of that tier and links to related views.
- **Application Contents** view lists the components of the selected application. For each component it indicates the state of health, number of each type of alarm, and health history.

- **Outstanding Alarms** view lists alarm information for the selected application. For a description of this view, see “Alarm List” on page 46.
- **Service Impact view** lists services that may be affected by a problem with the selected application.

Building an Application

An application is a set of tiers in which each tier contains a set of monitored elements, such as hosts and servers. A tier has a defined flow that represents the data moving from the user to the back-end systems.

The Application Builder dashboard is where you create a new application from scratch. It contains all the functions needed to build an application model in three views — one for each step in the process.



- In the Step One view, you add tiers to an application or edit the tiers in an existing application.

- In the Step Two view, you create tiers and define the flows and components for tiers.
- In the Step Three view, you inspect the application.

Note A new service is automatically created for a new application.

Step 1: Adding Tiers to an Application

Adding an application involves creating a set of application tiers that make up the different logical layers of the application. After the tiers are identified and created, they can be linked to show a logical flow of information. This makes it easier to understand the dependency between tiers. When you add vFoglight objects to the tiers, states begins to flow up to the tiers. The result is a model that shows which logical part of an application is causing a problem.

Note You can also add an application using the Service Builder Dashboard. See "Creating a New Application" on page 97.

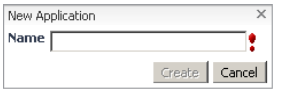
To add tiers to an application:

1. In the navigation panel, expand the Applications node and select **Application Builder**.

   The Application Builder is displayed.

2. In the Step One view, click **Add** or select an existing application from the drop-down list.

   The Application Creator dialog box appears.

3. Type a name that is unique to vFoglight for the application and click **Create**.

   The name of the new application is added to the drop-down list in the Step One view.

4. Choose the new application you just created from the drop-down list.

Step 2: Creating Tiers, Defining Tier Flows and Tier Components

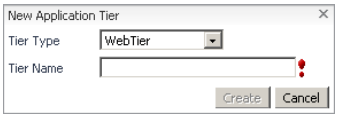
Creating Tiers

The following steps describe the procedure to create new tiers. If the tier already exists, you can add the tier to the application. See “Step 3: Adding Tiers to Preview the New Application and Tier Flows” on page 147.

To create a tier flow:

1. To create a new tier for the application, in the Step Two view click the Add icon .

   The Tier Creator dialog box appears.



1. Select the Tier Type (e.g WebTier, DatabaseTier, etc.) from the drop-down list.
2. Type a name for the tier and click **Create**.

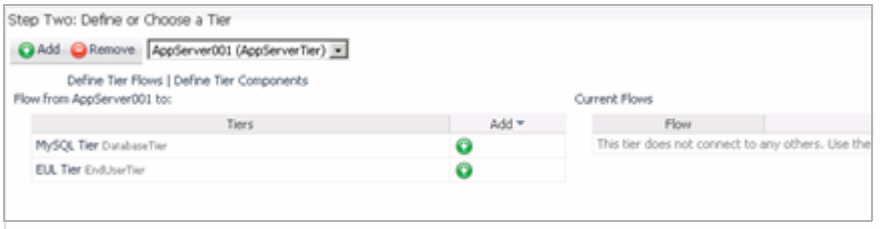
   The name of the new tier is added to the drop-down list and appears under Add a Tier.
3. Continue to add new tiers to the application if required.

Defining Tier Flows

When you define tier flows you are specifying the workflow sequence from one tier to another.

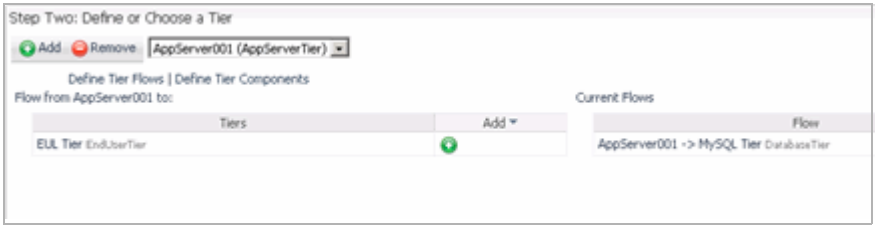
To define a tier flow:

1. In the Step 2 view, choose the tier from the drop-down list in which the flow originates.



2 Click the Add icon beside the tier which the flow.

3 The tier flow is added and appears under Current Flows.



4 Continue to add tier flows for the application if required.

Defining Tier Components

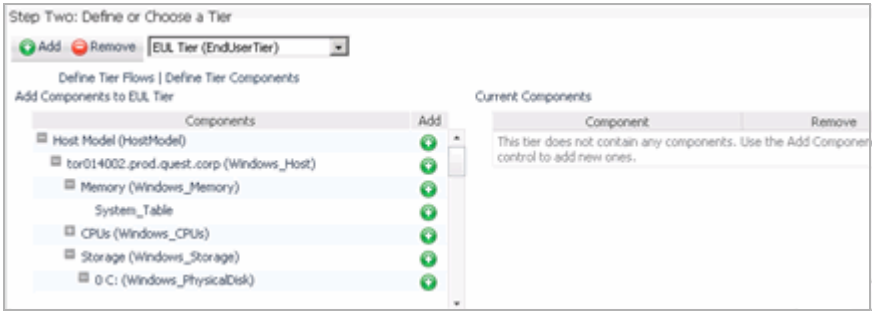
When defining tier components, you choose the components to add to the selected tier.

To define a tier component:

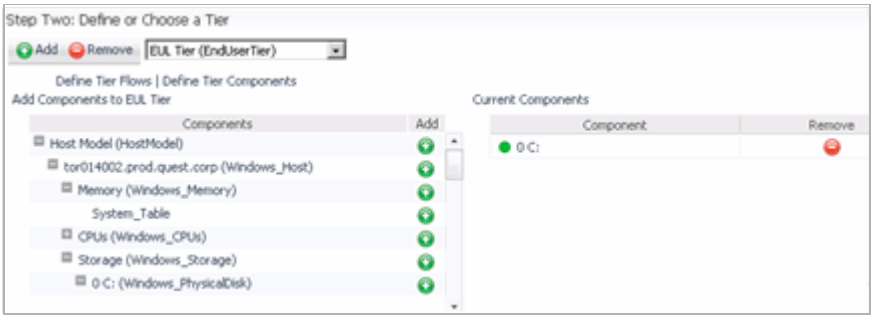
1 In the Step 2 view, choose the tier from the drop-down list .

2 Click **Define Tier Components**.

3 Drill-down to the component(s) you want to add and click Add beside the component.



4 The component that you added appears under the Current Components list.

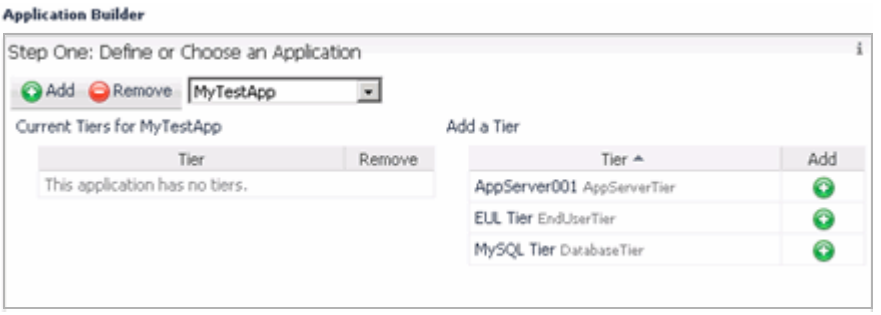


Step 3: Adding Tiers to Preview the New Application and Tier Flows

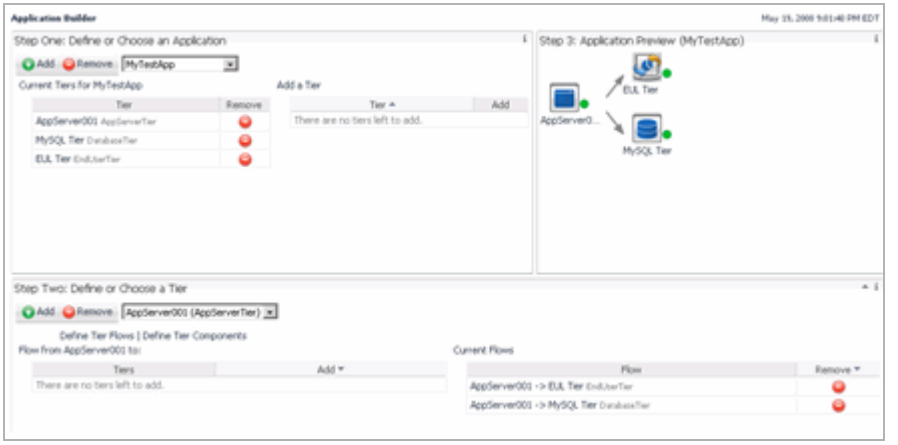
When you have finished adding tiers to the application, you can preview the new application in the Stepand tier flows in the Step 3 view.

To add Tiers to the Application:

1 Under Add a Tier, click Add for each tier(s) you want to add to the new application.



2 The tiers you added moves to the list under Current Tiers and you can preview the application tiers and flows in the step 3 view.



3 Click the icon for each tier and choose one of the links to view its monitored hosts and agents, a summary of metrics by host and agent, or a list of its properties.

When you have finished building the application, you can check the Services dashboard to confirm that the service that was created for the application is listed in the Categories and Services view.

Removing an Application, Tier, Tier Flow, or Tier Component

Use the following procedure to remove an application, tier, tier flow, or tier component that is no longer required.

To remove an application, tier, or tier flow, or tier component:

1 In the Application Builder, click **Remove** for the application, tier, tier flow, or tier component that you want to remove.

2 If you selected to remove an application or tier, a dialog prompts you to confirm the deletion. From the popup, click **Delete** to remove the selected item.

8

Working with Reports

The Reports feature provides the ability to share data outside of vFoglight. In vFoglight, the tasks of report scheduling and report browsing/viewing are separated into the Report Manager dashboard and the Reports dashboard.

This chapter contains the following sections:

Introducing the Reports Module 150
Supplied Report Templates 152
Working with Reports 180
Managing Scheduled Reports 188
Managing Generated Reports 192
Working with Custom Reports 201

Introducing the Reports Module

Most users can use the Reports dashboard to run and schedule reports; however, the use of the Report Manager dashboard to work with scheduled reports as well as test (preview) report templates, and create a new schedule should be limited to those with advanced operator permissions.

You can create reports based on:

- Pre-defined, standard reports—out-of-the-box templates for a high-level, overview perspective of the data. For information on the list of supplied report templates, see "Supplied Report Templates" on page 152.
- Custom reports—created from any displayed dashboard. See "Working with Custom Reports" on page 201.

vFoglight divides the report-related functions into two separate dashboards:

- Report Manager dashboard—allows users with advanced operator permissions to perform the tasks of editing, copying, and managing scheduled reports, test (preview) report templates, create a new schedule (that is not part of the defined list of schedules), as well as delete scheduled and generated reports.
- Reports dashboard—available to all users who are assigned the Operator role. Enables operators to perform some common tasks as available in the Report Manager dashboard such as run or schedule a report as well as delete a report.

Report Manager Dashboard

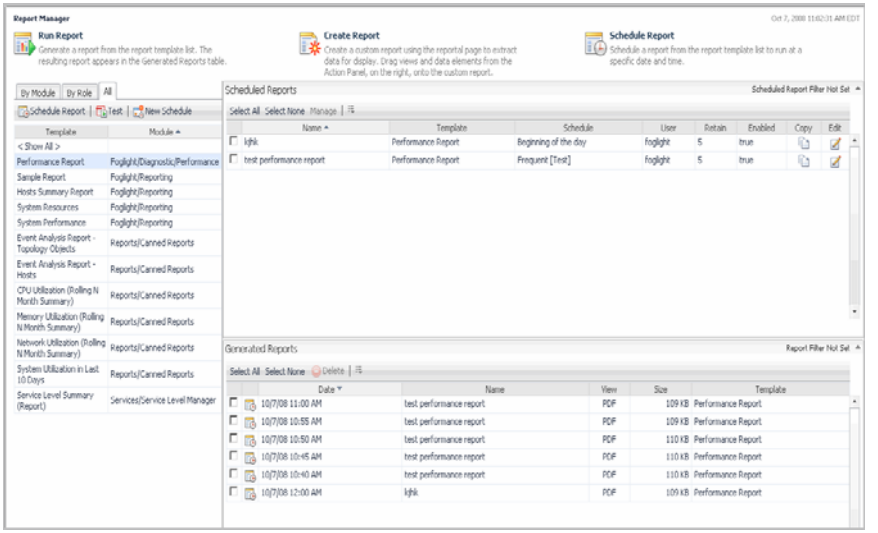
The Report Manager Dashboard enables you to create, edit, copy, and schedule reports, test report templates, and delete scheduled and generated reports.

The Report Manager consists of four panes:

- The top pane runs across the top of the Report Manager dashboard contains the icons to **Run Report**, **Create** (custom) **Report**, **Schedule Report**.
- The left-hand pane contains a hierarchical list on the left to better organize the reports. The report templates are grouped accordingly:
  - **By Module**—reports are classified by the module in which the report template is created (for example, Services, Administration, or Host).
  - **By Role**—reports are grouped according to common use by a functional role.

  - **All**—displays all available reports. The Module column indicates the module in which the report was defined.
- The upper right pane displays the **Scheduled Reports** view with the scheduled reports that have been created on the basis of the template.
  - The **Name**, **Template**, and **Schedule** columns for each scheduled report is listed. Click on a template or schedule to view details.
  - The **User** column lists who created the report.
  - The **Retain** column lists how many instances of a report are kept. For example, if the value is 3, then when a fourth report is generated, the oldest one will be deleted.
  - The **Disabled** column indicates whether the report is not currently being generated (true) or is being generated (false).
- The lower right pane displays the **Generated Reports** view containing the following columns:
  - **Date** and **Time** when each scheduled report was generated, **Report name**, **Size**, **Template**, and **Schedule**.
  - **Message** column displays any error messages associated with the report.
  - **View** column containing the PDF output of a generated report.

  To show or hide columns in the generated reports view, click the **Show/Hide** columns and select the checkboxes beside the columns to appear.



Reports Dashboard

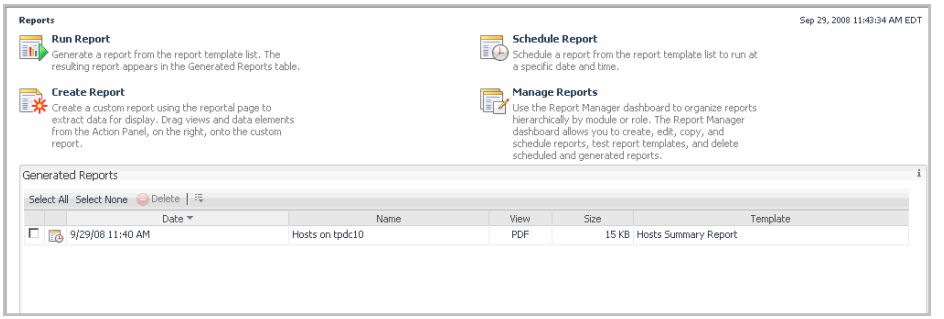
The Reports dashboard is available to Operators and lists the reports which have been generated. You can sort the list according to date, scheduled report, size, template, schedule, or message. The Reports dashboard has the same view as the Generated Reports area that is in the Report Manager dashboard, except that the Reports dashboard shows all reports that were generated in the Generated Reports view. The Report Manager dashboard shows reports according to the type of scheduled report as well as generated reports.

You can also use the Reporting dashboard to run a report using a report template, create a custom a report, and schedule a report to run at a later date.

To navigate to the Report Manager dashboard from the Reports dashboard, click the **Manage Reports** icon. Note that you will need Advanced Operator permissions to do so.

To filter the shown reports based on search text see “Applying a Filter to Generated Reports” on page 194.

To show or hide columns in the Generated Reports view, click the **Show/Hide** columns and select the checkboxes beside the columns you want to appear.


Reports
Sep 29, 2008 11:43:34 AM EDT
Run Report
Generate a report from the report template list. The resulting report appears in the Generated Reports table.
Schedule Report
Schedule a report from the report template list to run at a specific date and time.
Create Report
Create a custom report using the reportal page to extract data for display. Drag views and data elements from the Action Panel, on the right, onto the custom report.
Manage Reports
Use the Report Manager dashboard to organize reports hierarchically by module or role. The Report Manager dashboard allows you to create, edit, copy, and schedule reports, test report templates, and delete scheduled and generated reports.
Generated Reports
Select All Select None Delete
Date
Name
View
Size
Template
9/29/08 11:40 AM
Hosts on tpdc10
PDF
15 KB
Hosts Summary Report

Supplied Report Templates

Reports are created based on existing templates. Before you can create a report, you must know the template’s capabilities. Different reports use different parameters; these parameters define the content of the report

vFoglight contains a number of pre-defined, overview type reports based on default templates that you can use as they are or edit to meet your requirements. Each one serves a particular purpose however, there are multiple report templates that have the same expected inputs. The predefined report templates allow you to quickly generate reports with the option of setting and changing the values in the report inputs. The supplied templates are described on the following pages.

You can also create a custom report, which is similar to creating a dashboard. When you create a custom report, it is added to the report templates list. See “Creating a Custom Report Template” on page 201.

Note Most of the pre-defined reports have grid components that do not support CSV (Comma Separated Value) output.

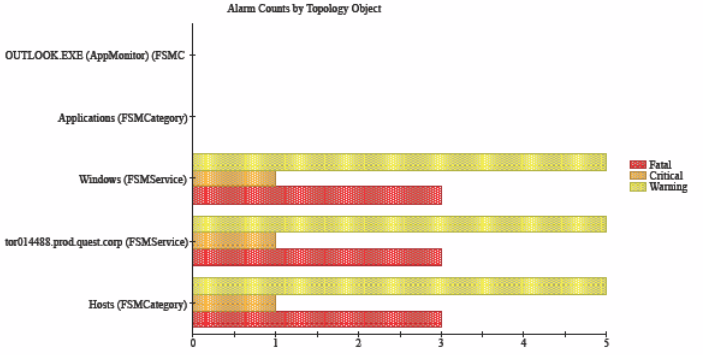
This section also lists the possible report inputs that are available for each supplied report template. The contents of the report input dialogs vary depending on the type value you are editing. You can set your own specialized parameters by specifying values for the report inputs using the Web Component Framework which is used to build all the views in the vFoglight user interface. For more information on context input and values, see the *Web Component Guide* and *Web Component Reference*.

Event Analysis for Any Resources Report

Provides an overview of the events for the given topology objects grouped by severity.

Event Analysis for TopologyObjects Sep 29, 2008 – Oct 6, 2008 7.0 days

Topology Object Name	Fatal	Critical	Warning
Hosts	3	1	5
tor014488.prod.quest.corp	3	1	5
Windows	3	1	5
Applications	0	0	0
OUTLOOK.EXE (AppMonitor)	0	0	0



Fatal Events

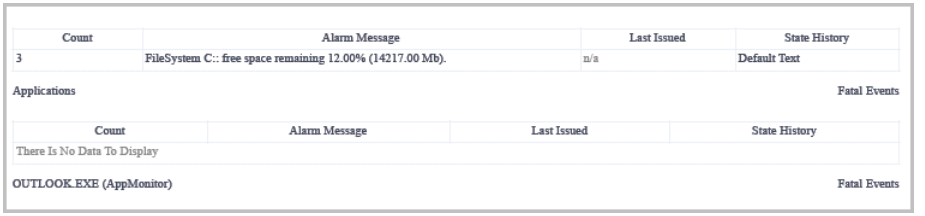
Hosts Fatal Events

Count	Alarm Message	Last Issued	State History
3	FileSystem C:: free space remaining 12.00% (14217.00 Mb).	n/a	Default Text

tor014488.prod.quest.corp Fatal Events

Count	Alarm Message	Last Issued	State History
3	FileSystem C:: free space remaining 12.00% (14217.00 Mb).	n/a	Default Text

Windows Fatal Events

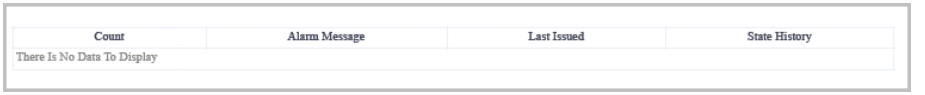


Count	Alarm Message	Last Issued	State History
3	FileSystem C:: free space remaining 12.00% (14217.00 Mb).	n/a	Default Text

Applications — Fatal Events

Count	Alarm Message	Last Issued	State History
There Is No Data To Display			

OUTLOOK.EXE (AppMonitor) — Fatal Events



Count	Alarm Message	Last Issued	State History
There Is No Data To Display			

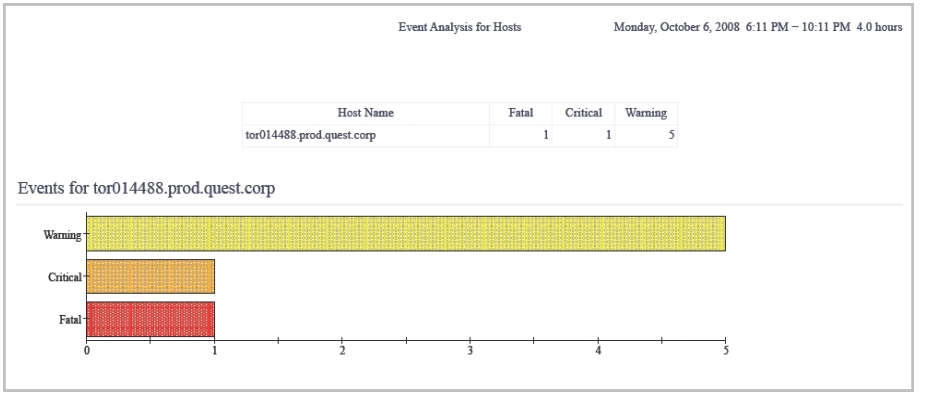
Report Inputs

Report Input	Description of Values
timeRange	Specify a period of time to report from. TimeRange for a metric observation can be specified in various ways, but it is always composed of a range of date-time objects, and a granularity. Select: • **TimeRange Type**: Choose one: - Last N (to display the time range for the last <number> <unit>) For example, last 2 months. - Calendar Aligned (enter a time range and offset number) - Custom (choose the date range on the calendar) • **Unit**: select the timeframe (e.g. Year, Month, etc) • **Number/Offset**: enter a value for the timerange. • **Granularity**: Choose one: - RAW—data observations are shown in the metric history with the smallest available granularity, or a number of milliseconds, for example, 300,000 for 5 minutes. - AUTO—the system will pick the best granularity based on the time range. For example, a numeric value of -2 - a specific time interval from the drop-down (e.g. 1 minute).

Report Input	Description of Values
topology objects	Required. Use the Topology layout to define different views for up to four zoom levels of combinations to display a tree of objects descending from a defined Root Object, which is either: • **Data** (for a single object of that data type) • **List** (specifying a list of objects for that data type) Select an object by navigating to the data node to find the data source for the object. You can also use: • **Query Selection**—to use WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—to invoke a function run-time value by specifying a null parameter.

Event Analysis for Hosts Report

Provides a summary of events for the given hosts grouped by severity. Also displays the count, alarm message, last issued, and state history for each event, if applicable.

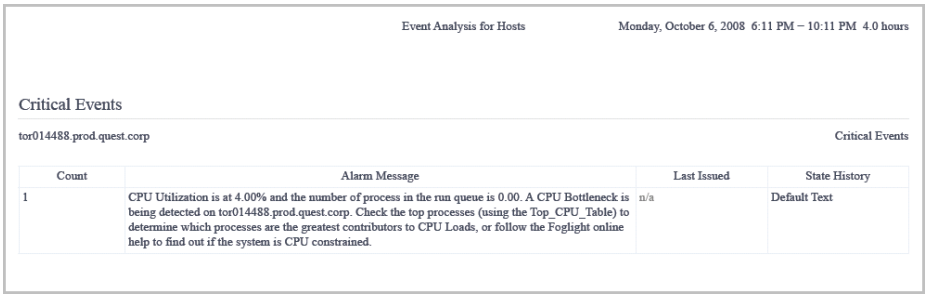


Event Analysis for Hosts Monday, October 6, 2008 6:11 PM – 10:11 PM 4.0 hours

Fatal Events

tor014488.prod.quest.corp Fatal Events

Count	Alarm Message	Last Issued	State History
1	FileSystem C:: free space remaining 12.00% (14217.00 Mb).	n/a	Default Text

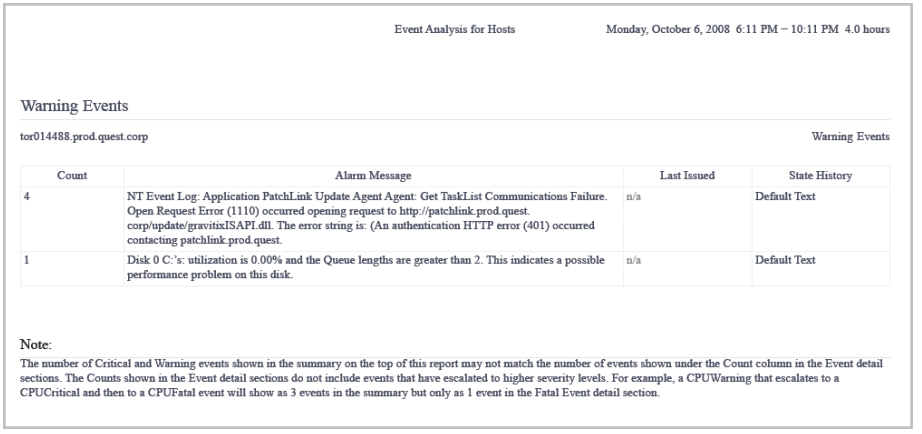


Event Analysis for Hosts Monday, October 6, 2008 6:11 PM – 10:11 PM 4.0 hours

Critical Events

tor014488.prod.quest.corp Critical Events

Count	Alarm Message	Last Issued	State History
1	CPU Utilization is at 4.00% and the number of process in the run queue is 0.00. A CPU Bottleneck is being detected on tor014488.prod.quest.corp. Check the top processes (using the Top_CPU_Table) to determine which processes are the greatest contributors to CPU Loads, or follow the Foglight online help to find out if the system is CPU constrained.	n/a	Default Text



Event Analysis for Hosts Monday, October 6, 2008 6:11 PM – 10:11 PM 4.0 hours

Warning Events

tor014488.prod.quest.corp Warning Events

Count	Alarm Message	Last Issued	State History
4	NT Event Log: Application PatchLink Update Agent Agent: Get TaskList Communications Failure. Open Request Error (1110) occurred opening request to http://patchlink.prod.quest.corp/update/gravitixISAPI.dll. The error string is: (An authentication HTTP error (401) occurred contacting patchlink.prod.quest.	n/a	Default Text
1	Disk 0 C:'s: utilization is 0.00% and the Queue lengths are greater than 2. This indicates a possible performance problem on this disk.	n/a	Default Text

Note:

The number of Critical and Warning events shown in the summary on the top of this report may not match the number of events shown under the Count column in the Event detail sections. The Counts shown in the Event detail sections do not include events that have escalated to higher severity levels. For example, a CPUWarning that escalates to a CPUCritical and then to a CPUFatal event will show as 3 events in the summary but only as 1 event in the Fatal Event detail section.

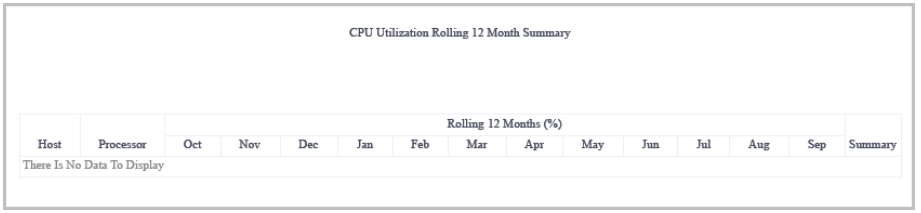
Report Inputs

Report Input	Description of Values
timeRange	Specify a period of time to report from. TimeRange for a metric observation can be specified in various ways, but it is always composed of a range of date-time objects, and a granularity. Select: • **TimeRange Type**: Choose one: - Last N (to display the time range for the last <number> <unit>) For example, last 2 months. - Calendar Aligned (enter a time range and offset number) - Custom (choose the date range on the calendar) • **Unit**: select the timeframe (e.g. Year, Month, etc) • **Number/Offset**: enter a value for the timerange. • **Granularity**: Choose one: - RAW—data observations are shown in the metric history with the smallest available granularity, or a number of milliseconds, for example, 300,000 for 5 minutes. - AUTO—the system will pick the best granularity based on the time range. For example, a numeric value of -2 - a specific time interval from the drop-down (e.g. 1 minute).
fsmService	Returns a list of objects representing the FSM service by using one of the following: • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and navigate to the data node to find the data source for the object. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value by specifying a null parameter.
longNameLike	Returns a list of values matching the string.

Report Input	Description of Values
maxHosts	Returns a list of objects representing the maximum hosts. Choose either: • **Integer**—enter an integer value • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and select a node. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value.

Physical Host - CPU Utilization Monthly Summary Report

Provides a monthly summary of host CPU utilization.

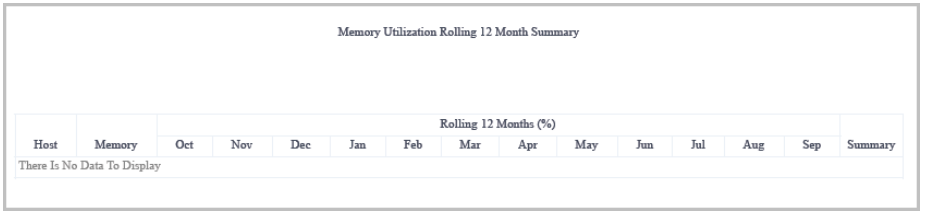


Report Inputs

Report Input	Description of Values
nMonths	Type an integer value to denote the number of months.
fsmService	Returns a list of objects representing the FSM service by using one of the following: • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and navigate to the data node to find the data source for the object. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value by specifying a null parameter.
longNameLike	Returns a list of values matching the string.
maxHosts	Returns a list of objects representing the maximum hosts. Choose either: • **Integer**—enter an integer value. • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and select a node. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value.

Physical Host - Memory Utilization Monthly Summary Report

Provides a monthly summary of a host's memory use.

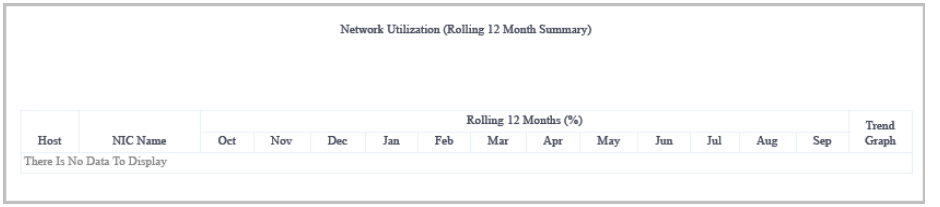


Report Inputs

Report Input	Description of Values
nMonths	Type an integer value to denote the number of months.
fsmService	Returns a list of objects representing the FSM service by using one of the following: • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and navigate to the data node to find the data source for the object. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value by specifying a null parameter.
longNameLike	Returns a list of values matching the string.
maxHosts	Returns a list of objects representing the maximum hosts. Choose either: • **Integer**—enter an integer value • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and select a node. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value.

Physical Host - Network Utilization Monthly Summary Report

Provides a monthly summary of host network utilization.



Network Utilization (Rolling 12 Month Summary)

Host	NIC Name	Rolling 12 Months (%)												Trend Graph
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
There Is No Data To Display														

Report Inputs

Report Input	Description
nMonths	Type an integer value to denote the number of months.
fsmService	Returns a list of objects representing the FSM service by using one of the following: • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and navigate to the data node to find the data source for the object. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value by specifying a null parameter.
longNameLike	Returns a list of values matching the string.
maxHosts	Returns a list of objects representing the maximum hosts. Choose either: • **Integer**—enter an integer value • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and select a node. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value.

Physical Host Utilization Summary - Last 10 Days Report

Lists the host CPU, Memory, Disk and Network data over the last 10 days.

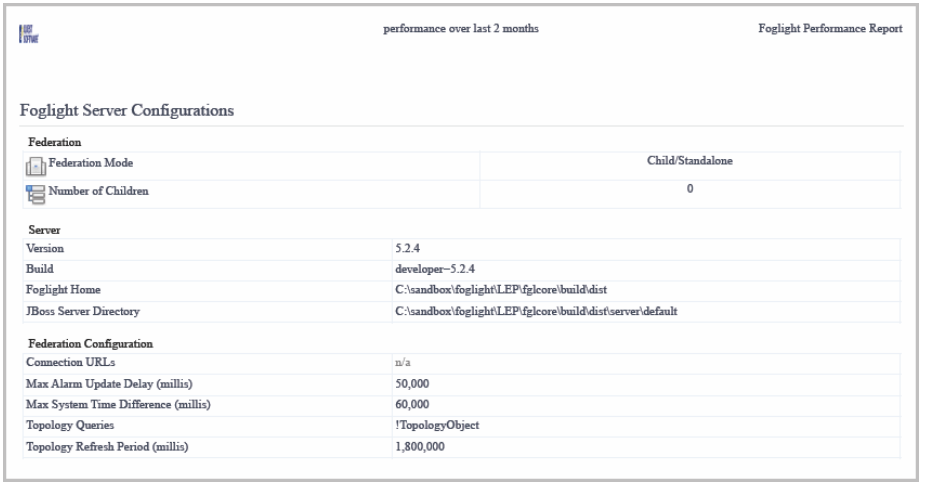
Report Inputs

Report Input	Description
timeRange	Specify a period of time to report from. TimeRange for a metric observation can be specified in various ways, but it is always composed of a range of date-time objects, and a granularity. Select: • **TimeRange Type**: Choose one: - Last N (to display the time range for the last <number> <unit>) For example, last 2 months. - Calendar Aligned (enter a time range and offset number) - Custom (choose the date range on the calendar) • **Unit**: select the timeframe (e.g. Year, Month, etc) • **Number/Offset**: enter a value for the timerange. • **Granularity**: Choose one: - RAW—data observations are shown in the metric history with the smallest available granularity, or a number of milliseconds, for example, 300,000 for 5 minutes. - AUTO—the system will pick the best granularity based on the time range. For example, a numeric value of -2 - a specific time interval from the drop-down (e.g. 1 minute).
fsmservice	Returns a list of objects representing the FSM service by using one of the following: • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and navigate to the data node to find the data source for the object. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value by specifying a null parameter.
longNameLike	Returns a list of values matching the string.

Report Input	Description
maxHosts	Returns a list of objects representing the maximum hosts. Choose either: • **Integer**—enter an integer value • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and select a node. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value.

Management Server Performance Summary Report

Displays current vFoglight Server performance information, including DB metric, JVM, and agent connectivity.



performance over last 2 months

Foglight Performance Report

Foglight Server Configurations

Federation

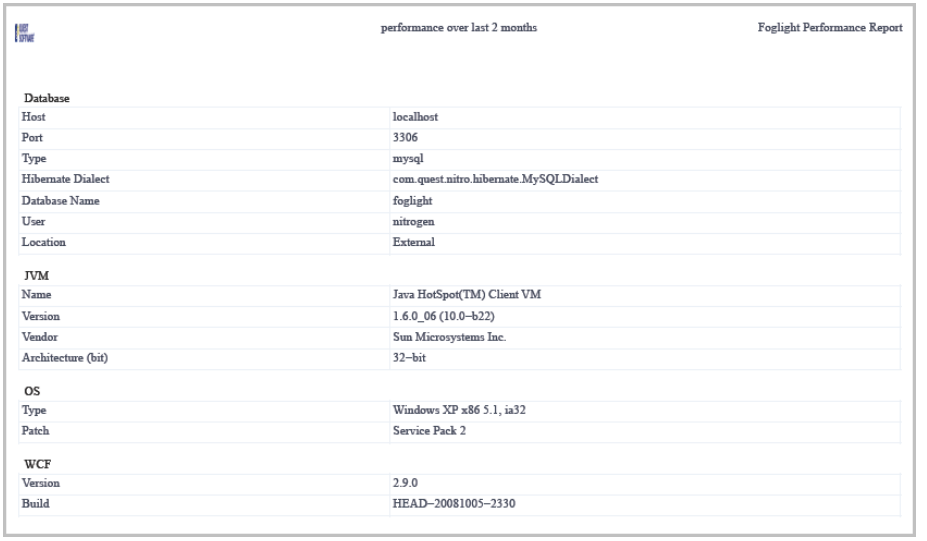
Federation Mode	Child/Standalone
Number of Children	0

Server

Version	5.2.4
Build	developer--5.2.4
Foglight Home	C:\sandbox\foglight\LEP\fglcore\build\dist
JBoss Server Directory	C:\sandbox\foglight\LEP\fglcore\build\dist\server\default

Federation Configuration

Connection URLs	n/a
Max Alarm Update Delay (millis)	50,000
Max System Time Difference (millis)	60,000
Topology Queries	!TopologyObject
Topology Refresh Period (millis)	1,800,000



performance over last 2 months Foglight Performance Report

Database

Host	localhost
Port	3306
Type	mysql
Hibernate Dialect	com.quest.nitro.hibernate.MySQLDialect
Database Name	foglight
User	nitrogen
Location	External

JVM

Name	Java HotSpot(TM) Client VM
Version	1.6.0_06 (10.0-b22)
Vendor	Sun Microsystems Inc.
Architecture (bit)	32-bit

OS

Type	Windows XP x86 5.1, ia32
Patch	Service Pack 2

WCF

Version	2.9.0
Build	HEAD-20081005-2330

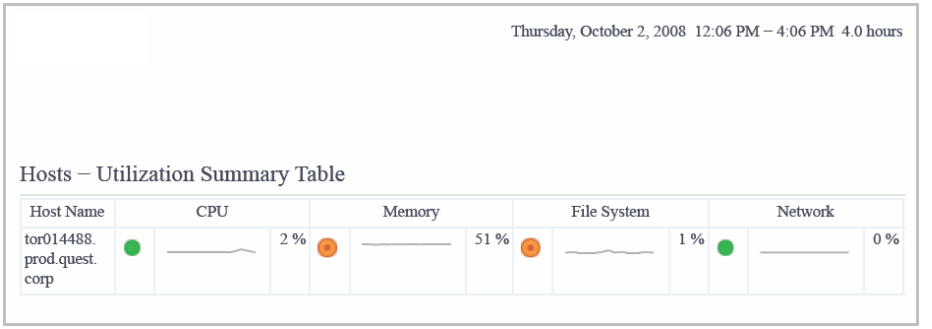
Report Inputs

Report Input	Description
timeRange	Specify a period of time to report from. TimeRange for a metric observation can be specified in various ways, but it is always composed of a range of date-time objects, and a granularity. Select: • **TimeRange Type**: Choose one: - Last N (to display the time range for the last <number> <unit>) For example, last 2 months. - Calendar Aligned (enter a time range and offset number) - Custom (choose the date range on the calendar) • **Unit**: select the timeframe (e.g. Year, Month, etc) • **Number/Offset**: enter a value for the timerange. • **Granularity**: Choose one: - RAW—data observations are shown in the metric history with the smallest available granularity, or a number of milliseconds, for example, 300,000 for 5 minutes. - AUTO—the system will pick the best granularity based on the time range. For example, a numeric value of -2 - a specific time interval from the drop-down (e.g. 1 minute).
description	Specify a string value describing the report.
FoglightServer	Select a vFoglight server. Alternatively, click Show Advanced to returns a list of objects representing the FSM service by using one of the following: • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and navigate to the data node to find the data source for the object. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value by specifying a null parameter.

Report Input	Description
currentTime	Use the calendar to specify the current time of the report.

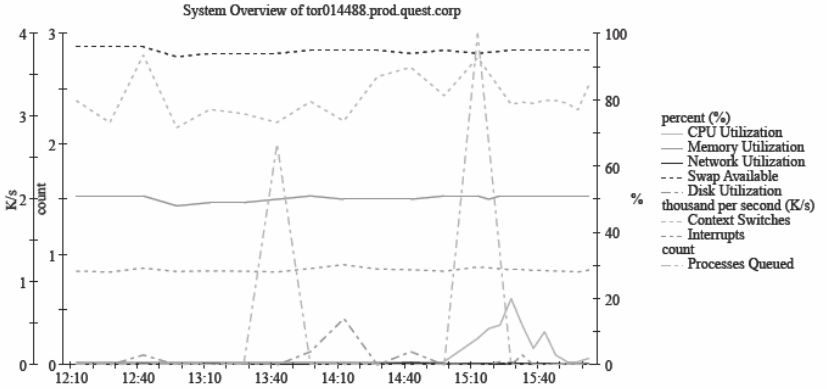
Physical Host Load Summary Report

The Hosts Summary report provides a host summary for the CPU, memory, file system, and network usage.



Thursday, October 2, 2008 12:06 PM – 4:06 PM 4.0 hours

System Load Summary for tor014488.prod.quest.corp



Metric	High	Low	Average
CPU Utilization	20	1	3
Memory Utilization	51	48	50
Network Utilization	1	0	0
Context Switches	3,739	2,734	3,082
Swap Available	96	93	95
Interrupts	1,210	1,118	1,135
Processes Queued	3	0	0
Disk Utilization	14	0	1

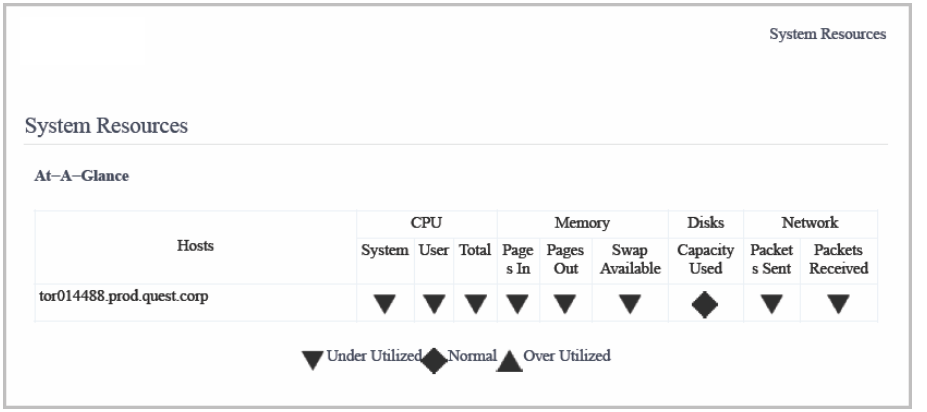
Report Inputs

Report Input	Description of Values
timeRange	Specify a period of time to report from. TimeRange for a metric observation can be specified in various ways, but it is always composed of a range of date-time objects, and a granularity. Select: • **TimeRange Type**: Choose one: - Last N (to display the time range for the last <number> <unit>) For example, last 2 months. - Calendar Aligned (enter a time range and offset number) - Custom (choose the date range on the calendar) • **Unit**: select the timeframe (e.g. Year, Month, etc) • **Number/Offset**: enter a value for the timerange. • **Granularity**: Choose one: - RAW—data observations are shown in the metric history with the smallest available granularity, or a number of milliseconds, for example, 300,000 for 5 minutes. - AUTO—the system will pick the best granularity based on the time range. For example, a numeric value of -2 - a specific time interval from the drop-down (e.g. 1 minute).
fsmService	Returns a list of objects representing the FSM service by using one of the following: • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and navigate to the data node to find the data source for the object. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value by specifying a null parameter.
longNameLike	Returns a list of values matching the string.

Report Input	Description of Values
maxHosts	Returns a list of objects representing the maximum hosts. Choose either: • **Integer**—enter an integer value • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and select a node. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value.

Physical Host Performance Details Report

Provides an overview of the host system data over a given time range including CPU, Memory, File System and Network metrics.



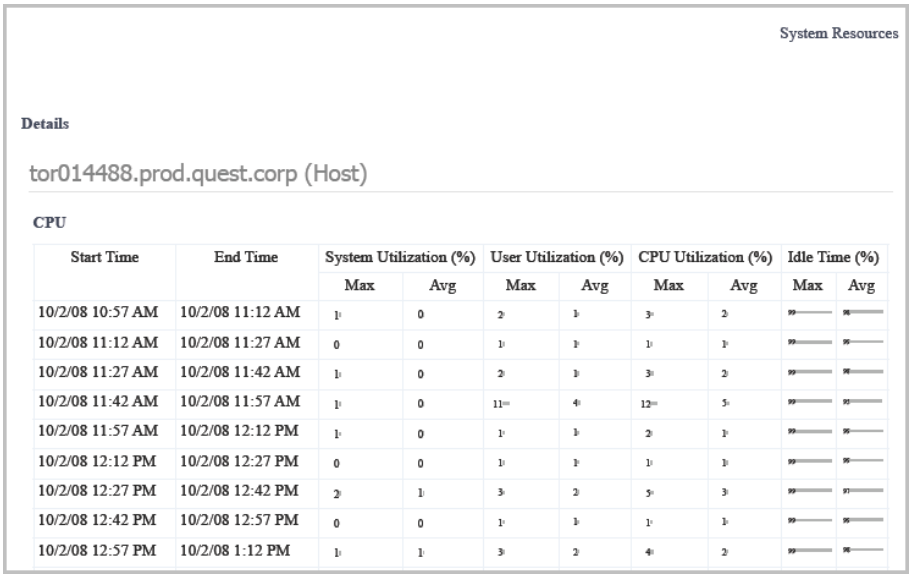
System Resources

System Resources

At–A–Glance

Hosts	CPU			Memory			Disks	Network	
	System	User	Total	Pages In	Pages Out	Swap Available	Capacity Used	Packets Sent	Packets Received
tor014488.prod.quest.corp	▼	▼	▼	▼	▼	▼	◆	▼	▼

▼ Under Utilized ◆ Normal ▲ Over Utilized



System Resources

Details

tor014488.prod.quest.corp (Host)

CPU

Start Time	End Time	System Utilization (%)		User Utilization (%)		CPU Utilization (%)		Idle Time (%)	
		Max	Avg	Max	Avg	Max	Avg	Max	Avg
10/2/08 10:57 AM	10/2/08 11:12 AM	1	0	2	1	3	2	99	98
10/2/08 11:12 AM	10/2/08 11:27 AM	0	0	1	1	1	1	99	99
10/2/08 11:27 AM	10/2/08 11:42 AM	1	0	2	1	3	2	99	98
10/2/08 11:42 AM	10/2/08 11:57 AM	1	0	11	4	12	5	99	99
10/2/08 11:57 AM	10/2/08 12:12 PM	1	0	1	1	2	1	99	99
10/2/08 12:12 PM	10/2/08 12:27 PM	0	0	1	1	1	1	99	99
10/2/08 12:27 PM	10/2/08 12:42 PM	2	1	3	2	5	3	99	97
10/2/08 12:42 PM	10/2/08 12:57 PM	0	0	1	1	1	1	99	99
10/2/08 12:57 PM	10/2/08 1:12 PM	1	1	3	2	4	2	99	98

System Resources

Memory

Start Time	End Time	Pages In (1/sec)		Pages Out (1/sec)		Swap Available (%)	
		Max	Avg	Max	Avg	Max	Avg
10/2/08 10:57 AM	10/2/08 11:12 AM	1	0	0	0	96	96
10/2/08 11:12 AM	10/2/08 11:27 AM	0	0	0	0	96	96
10/2/08 11:27 AM	10/2/08 11:42 AM	0	0	0	0	96	96
10/2/08 11:42 AM	10/2/08 11:57 AM	0	0	0	0	96	96
10/2/08 11:57 AM	10/2/08 12:12 PM	0	0	0	0	96	96
10/2/08 12:12 PM	10/2/08 12:27 PM	0	0	0	0	96	96
10/2/08 12:27 PM	10/2/08 12:42 PM	27	9	20	7	96	96
10/2/08 12:42 PM	10/2/08 12:57 PM	0	0	96	58	94	94
10/2/08 12:57 PM	10/2/08 1:12 PM	0	0	0	0	94	94

System Resources

Disks

Disk Name	Space Total	Space Available		Capacity Used (%)	
		Max	Avg	Max	Avg
C:	114,469.00 MB	16,866.00 MB	16,866.00 MB	85	85

Network

Start Time	End Time	Utilization		Packets Sent		Packets Received	
		Max	Avg	Max	Avg	Max	Avg
10/2/08 10:57 AM	10/2/08 11:12 AM	0	0	36	33	41	38
10/2/08 11:12 AM	10/2/08 11:27 AM	0	0	34	33	38	37
10/2/08 11:27 AM	10/2/08 11:42 AM	0	0	40	35	44	40
10/2/08 11:42 AM	10/2/08 11:57 AM	1	0	47	37	52	42
10/2/08 11:57 AM	10/2/08 12:12 PM	0	0	32	29	37	35
10/2/08 12:12 PM	10/2/08 12:27 PM	0	0	31	31	36	35
10/2/08 12:27 PM	10/2/08 12:42 PM	0	0	40	36	45	41
10/2/08 12:42 PM	10/2/08 12:57 PM	0	0	33	32	37	36
10/2/08 12:57 PM	10/2/08 1:12 PM	0	0	37	35	41	39

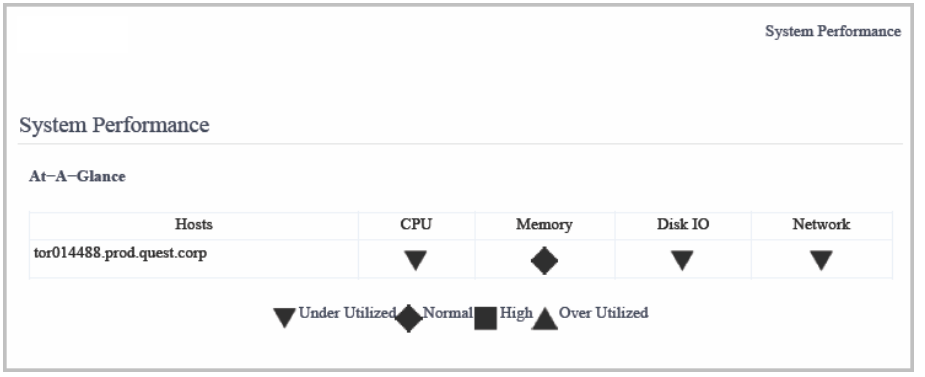
Report Inputs

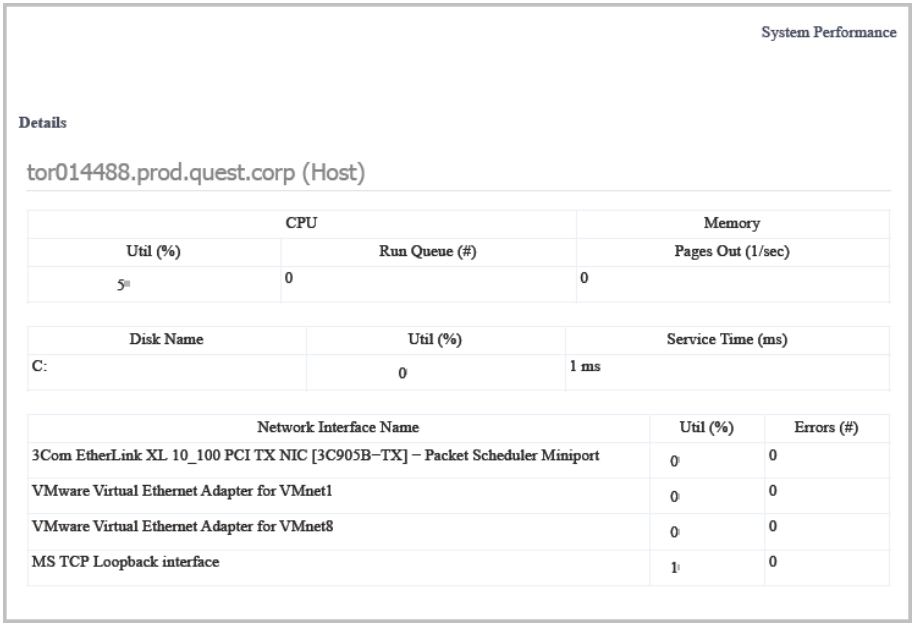
Report Input	Description of Values
timeRange	Specify a period of time to report from. TimeRange for a metric observation can be specified in various ways, but it is always composed of a range of date-time objects, and a granularity. Select: • **TimeRange Type**: Choose one: - Last N (to display the time range for the last <number> <unit>) For example, last 2 months. - Calendar Aligned (enter a time range and offset number) - Custom (choose the date range on the calendar) • **Unit**: select the timeframe (e.g. Year, Month, etc) • **Number/Offset**: enter a value for the timerange. • **Granularity**: Choose one: - RAW—data observations are shown in the metric history with the smallest available granularity, or a number of milliseconds, for example, 300,000 for 5 minutes. - AUTO—the system will pick the best granularity based on the time range. For example, a numeric value of -2 - a specific time interval from the drop-down (e.g. 1 minute).
fsmService	Returns a list of objects representing the FSM service by using one of the following: • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and navigate to the data node to find the data source for the object. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value by specifying a null parameter.
longNameLike	Returns a list of values matching the string.

Report Input	Description of Values
maxHosts	Returns a list of objects representing the maximum hosts. Choose either: • **Integer**—enter an integer value • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and select a node. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value.

Physical Host Performance Summary Report

Provides an overview of the current host system data including CPU, memory, and file, and network.





System Performance

Details

tor014488.prod.quest.corp (Host)

CPU		Memory
Util (%)	Run Queue (#)	Pages Out (1/sec)
5	0	0

Disk Name	Util (%)	Service Time (ms)
C:	0	1 ms

Network Interface Name	Util (%)	Errors (#)
3Com EtherLink XL 10_100 PCI TX NIC [3C905B−TX] − Packet Scheduler Miniport	0	0
VMware Virtual Ethernet Adapter for VMnet1	0	0
VMware Virtual Ethernet Adapter for VMnet8	0	0
MS TCP Loopback interface	1	0

Report Inputs

Report Input	Description of Values
timeRange	Specify a period of time to report from. TimeRange for a metric observation can be specified in various ways, but it is always composed of a range of date-time objects, and a granularity. Select: • **TimeRange Type**: Choose one: - Last N (to display the time range for the last <number> <unit>) For example, last 2 months. - Calendar Aligned (enter a time range and offset number) - Custom (choose the date range on the calendar) • **Unit**: select the timeframe (e.g. Year, Month, etc) • **Number/Offset**: enter a value for the timerange. • **Granularity**: Choose one: - RAW—data observations are shown in the metric history with the smallest available granularity, or a number of milliseconds, for example, 300,000 for 5 minutes. - AUTO—the system will pick the best granularity based on the time range. For example, a numeric value of -2 - a specific time interval from the drop-down (e.g. 1 minute).
fsmService	Returns a list of objects representing the FSM service by using one of the following: • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and navigate to the data node to find the data source for the object. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value by specifying a null parameter.
longNameLike	Returns a list of values matching the string.

Report Input	Description of Values
maxHosts	Returns a list of objects representing the maximum hosts. Choose either: • **Integer**—enter an integer value • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. Drill-down to the object and select a node. • **Query Selection**—uses WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—invokes a function run-time value.

Service Level Summary Report

Provides service level summary information including alarm information and availability over a given time range.

Report Inputs

Report Input	Description of Values
timeRange	Specify a period of time to report from. TimeRange for a metric observation can be specified in various ways, but it is always composed of a range of date-time objects, and a granularity. Select: • **TimeRange Type**: Choose one: - Last N (to display the time range for the last <number> <unit>) For example, last 2 months. - Calendar Aligned (enter a time range and offset number) - Custom (choose the date range on the calendar) • **Unit**: select the timeframe (e.g. Year, Month, etc) • **Number/Offset**: enter a value for the timerange. • **Granularity**: Choose one: - RAW—data observations are shown in the metric history with the smallest available granularity, or a number of milliseconds, for example, 300,000 for 5 minutes. - AUTO—the system will pick the best granularity based on the time range. For example, a numeric value of -2 - a specific time interval from the drop-down (e.g. 1 minute).
SLA	Required. Choose a method to return a list of objects representing the FSM ServiceLevelPolicy by using one of the following functions: • **Data**—displays a tree of objects descending from a defined Root Object, for a single object of that data type. • **Query Selection**—to use WCF queries that are similar to SQL queries to select a subset of information in a data source. • **Invoke Function**—to invoke a function run-time value by specifying a null parameter.

Working with Reports

This section describes the functions that are available to work with reports such as run a report, schedule a report, test a report template, and add a new schedule to the default report schedules list. The tasks of running a report and scheduling a report are available in both the Reports dashboard and Report Manager dashboard. The Test and New Schedule buttons are only accessible in the Report Manager dashboard.

Running a Report

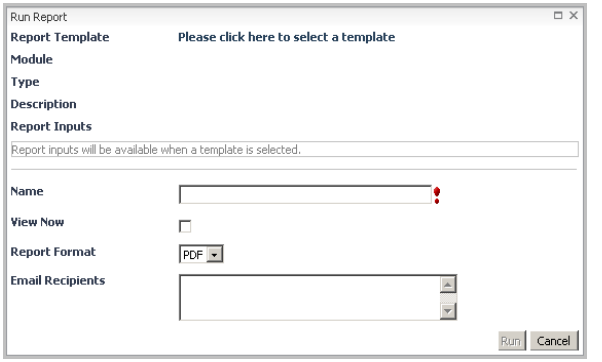
The **Run Report** option on the Reports Manager dashboard or the Reports dashboard enables you to choose a report from the report template list and run the report so you can view the PDF output of the report immediately without having to schedule the report. The resulting report appears in the Generated Reports table.

When you run a report you do not attach a schedule to it. To schedule the report to run on a particular date and time, see “Scheduling a Report” on page 182.

When choosing a template in the Run Report option you can specify values for the report inputs or leave the report values without attaching any values to it.

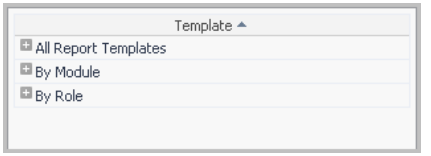
To run a report:

1. In the navigation panel, under Dashboards, click **Reports** > **Report Manager**. If you do not have access to the Report Manager dashboard, click **Reports** > **Reports**.
2. Click **Run Report** to open the Run Report dialog box.



3. Complete the entries in the Run Report dialog box:

a **Report Template**—click **Please click here to select template** and drill-down to the report template on which to base your report. To help you focus on the source of the report, when choosing a report you can select by module, role or all.



- Click the report template you want to use.

The dialog box populates with the data for the template you selected.

- You can leave the report inputs as is or tailor the report by specifying report input values according to your business requirements. To specify an input value to this report, click the not set **Edit** icon in the Value column of the Report Inputs table to open an edit dialog. The contents of this dialog vary depending on the type value you are editing. For example, an input can be a time range that determines the range of data to display. For information on report inputs, see the Report input section for the appropriate report template in “Supplied Report Templates” on page 138. If a Report Input is marked as required under the Usage column, a value must be set to create the scheduled report. If you enter a new value click **Set**.

  For more information on the Web Component Framework and context inputs, see the Web Component Guide and Web Component Tutorial.

b **Name**—type a unique name for the report. This is a required field.

Note If you are using a template in which the host name is required, you must enter the host name in the text field exactly as it appears at the top of the reports.

c **View Now**—select the check box to view the PDF output of the report immediately.

d **Report Format**—select PDF to create the report in PDF format.

Note The CSV option does not appear for pre-defined reports (with the exception of the vFMS Database View diagnostic report) since most pre-defined reports are not capable of generating meaningful CSV data. To generate a CSV report, the component type of the report must support CSV output. For details, see “Creating a CSV Report” on page 203.

e **Email Recipients**—type the recipient’s email address in the text box to send an email notification about this report. For multiple email recipients, you can

enter a list of comma-separated email addresses however, you must restart the vFoglight Management Server.

Note To send reports to email recipients from the Report Manager, you must configure the e-mail server by enabling the “Email Reports Sample” rule. By default, this rule is disabled. When enabling the rule you may also have to edit the “Fire” condition to filter the reports before sending them to email recipients. For more information, see the vFoglight Administration and Configuration Guide under “Working with vFoglight Rules and Registry > Working with Rules > Defining Conditions, Alarms, and Actions > Defining actions > vFoglight actions > Viewing email settings and configuring email actions”.

4 Click **Run** to generate the report immediately in PDF format.

Scheduling a Report

Select the **Schedule Report** option on the Reports Manager dashboard or the Reports dashboard to create a report using the report template list and then scheduling the report to run at a particular time. You have the option to leave the report input values as is or tailor the report by specifying input values according to your business requirements.

Note You can also schedule a report that has generated. See “Scheduling a Generated Report” on page 196.

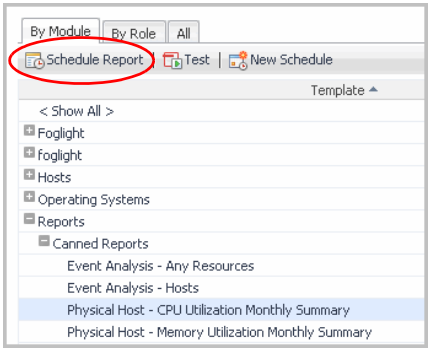
If you want to define a new schedule other than the out-of-box schedules provided with vFoglight, see “Adding a New Schedule” on page 186.

To schedule a report:

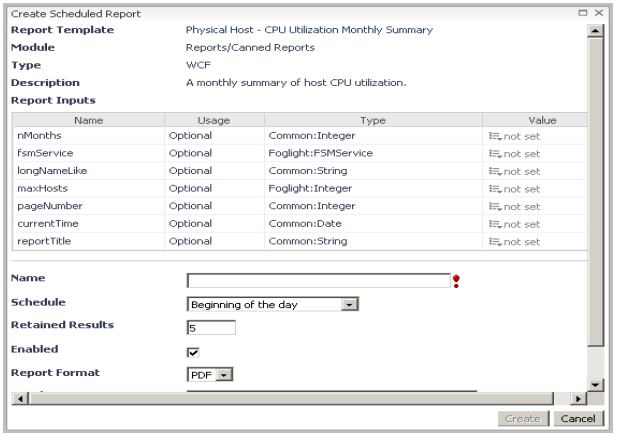
1 In the navigation panel, under Dashboards, click **Reports** > **Report Manager**. If you do not have access to the Report Manager dashboard, click **Reports** > **Reports**.

2 Click **Schedule Report** to open the Scheduled Report dialog box. You can schedule a report by either:

- Choosing a template from the Reports list in the Reports Manager dashboard:

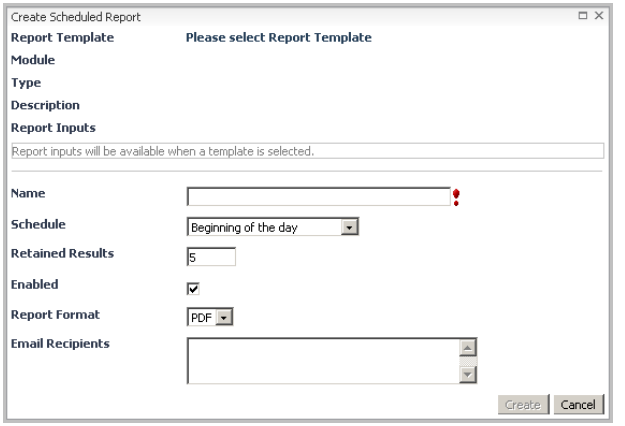


If you chose this option, when clicking Schedule Report, the Create Scheduled Report populates automatically with data for the selected template.

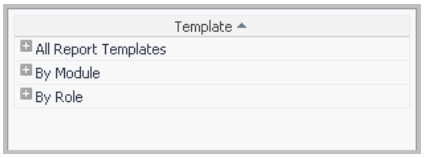


- Choosing Schedule Report from the top pane of the Reports dashboard or Reports Manager dashboard.

If you chose this option you will need to click **Please select report template**.



Drill-down to the report template on which to base your report. Select a template on which to base your report from the Report Template column. To help you focus on the source of the report, choose a report based on their classification: By Module, By Role, or All.



If you choose this option, the dialog automatically populates with the data for the template you selected.

3 Complete the remaining entries in the Create Scheduled Report dialog box:

- **Report Inputs**—if you want to specify a value of an input to this report, click the Edit icon in the **Value** column of the Report Inputs table to open an edit dialog. The contents of this dialog vary depending on the type value you are editing. For example, an input can be a time range that determines the range of data to display. For information on report inputs, see the Report input section for the appropriate report template in “Supplied Report Templates” on page 152.
  If a Report Input is marked as required under the Usage column, a value must be set to create the scheduled report.
  If you enter a new value click **Set**.
  For more information on the Web Component Framework and context inputs, see the *Web Component Guide* and *Web Component Tutorial*.

- **Name**—type a unique name for the report. This is a required value.

Note If you are using a template in which the host name is required, you must enter the host name in the text field exactly as it appears at the top of the reports.

- **Schedule**—choose when to run the report. For example, choose “End of day” to run the report on an end-of-day schedule.
  To create a schedule that is not in the list, see “Adding a New Schedule” on page 186.

- **Retained Results—**choose a value to indicate how many instances of a report to keep. This is a required field. For example, if the value is 3, then when a fourth report is generated, the oldest report will be deleted.

- **Enabled**—the checkbox to set report generation is selected by default.

- **Report Format**—select PDF to create the report in PDF format.

Note The CSV option does not appear for pre-defined reports (with the exception of the vFMS Database View diagnostic report) since most pre-defined reports are not capable of generating meaningful CSV data. To generate a CSV report, the component type of the report must support CSV output. For details, see “Creating a CSV Report” on page 203.

- **Email Recipients**—type the recipient’s email address in the box to send an email notification about this report. For multiple email recipients, you can enter a list of comma-separated email addresses however, you must restart the vFoglight Management Server.

Note To send reports to email recipients from the Report Manager, you must configure the e-mail server by enabling the “Email Reports Sample” rule. By default, this rule is disabled. When enabling the rule you may also have to edit the “Fire” condition to filter the reports before sending them to email recipients. For more information, see the vFoglight Administration and Configuration Guide under “Working with vFoglight Rules and Registry > Working with Rules > Defining Conditions, Alarms, and Actions > Defining actions > vFoglight actions > Viewing email settings and configuring email actions”.

4 Click **Create** to create and schedule the report. The report appears in the Scheduled Reports View. See “Managing Scheduled Reports” on page 188.

When the report is generated, it will appear in the Generated Reports view. See “Viewing a Generated Report” on page 192.

Testing a Report Template

If you have the appropriate permissions, you can use the Test button on the Report Manager dashboard as a quick and easy way to preview a report template without having to create a scheduled report nor generate the report.

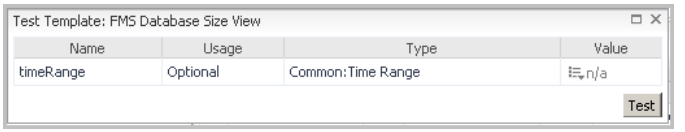
To test a selected report template:

1 In the navigation panel under **Dashboards**, click **Reports** > **Report Manager**.

2 Create a report based on a pre-defined or custom template. For a pre-defined report template, see “Supplied Report Templates” on page 152. For custom report templates, see “Creating a Custom Report Template” on page 201.

3 Click **Test**.

A test dialog box with the context inputs for the selected report appears.



4 You can optionally enter context input values for the report. If a Report Input is marked as required under the Usage column, a value must be set to preview the report. To change the value of a context input value click not set. By entering values for the context input you can set your own specialized parameters using the Web Component Framework which is used to build all the views in the vFoglight user interface. If you specify a context input value, make sure you click **Set**. For information on report inputs, see the Report input section for the appropriate report template in “Supplied Report Templates” on page 152. For more information on the Web Component Framework and context inputs, see the *Web Component Guide* and *Web Component Tutorial*.

5 Click **Test** to view a PDF output of the report template.

Adding a New Schedule

If the schedule options available in the Report Manager do not meet your needs, you can define a new schedule to fit your requirements. For more information about schedules, see the *Administration and Configuration Guide*.

To add a new schedule:

1 In the Report Manager dashboard, click **New Schedule**.

2 Type a unique name for the schedule in the **Schedule Name** field.

3 Add an optional description about the schedule in the **Description/Comments** field.

4 Click **Next** to go to the Details of Schedule page.

5 Set the **Start Date** using the fields and drop-down menu, or click the browse button ( ) to open a calendar where you can select the start date.

6 Enter a **Start Time** and **End Time**, or select the **Whole Day** check box if you want the schedule to cover the whole day. The Whole Day check box may or may not be available depending on the Recurrence Pattern you select. For example, it does not appear for the Recurrence Pattern "Once" (which is the default option.)

Note The End Time must be later than the Start Time.

7 Choose an option under **Recurrence Pattern:**

- Once—to specify the schedule to execute only one time during the specified start and end time.
- Periodical—specify the hour and minute that the report will run. For example, type 06:00 to run the report every 6 hours.
- Daily—specify the number of days the report will run. For example, type 2 to run the report every 2 days.
- Weekly—specify the number of weeks and the days that the report will run. For example, to run the report to schedule every 2 weeks on Friday, type 2 and select Friday.
- Monthly—select to run the report by date or by week.
  For example, to run the report by date you can run the report every 6th day each month. Type 6 in the Day box and type 1 in the month field.
  If you select to run the report by week, select the week (First, Second, Third, Fourth, or Last), the weekday and monthly frequency. For example, you can schedule the report to run on the last week of every Tuesday every 2 months.
- Yearly—select the report to run by date or by week.
  For example, to run the report by date you can run the report on a particular day on the selected month such as every December 31.
  If you select to run the report by week, select the week (First, Second, Third, Fourth, or Last), the weekday and the month. For example, you can choose to specify the report to run on the last week on Friday every December.

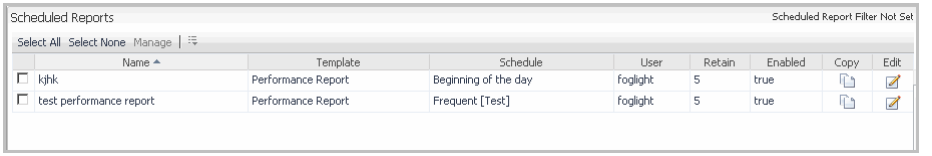
8 Choose an option under **Range of Occurrence** (the period during which the schedule will recur).

If you selected an option other than **Once** as the recurrence pattern, you can select the **No End** option button to cause the schedule to recur indefinitely, or set an **End By Date** using the fields and drop-down menu or by clicking the browse button ( ) to open a calendar from which you can select the end date.

9 Click **Add** to create the schedule.

Managing Scheduled Reports

After you scheduled a report, the report appears in the Scheduled Reports view in the Reports Manager dashboard where you can edit, copy, enable/disable, and delete scheduled reports.



For information on creating a report with a schedule, see “Scheduling a Report” on page 182.

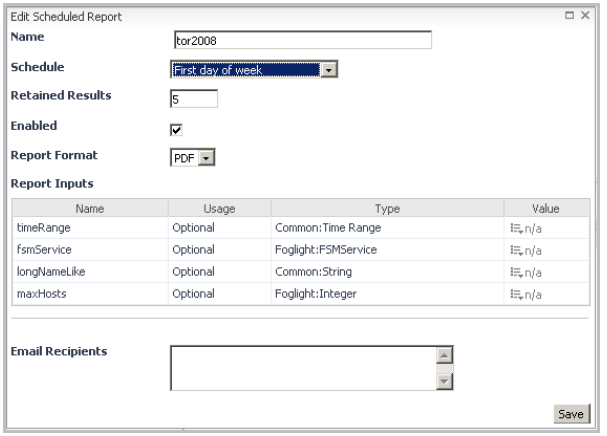
Editing a Scheduled Report

You can change any or all the parameters of a scheduled report.

To edit a scheduled report:

1 In the Scheduled Reports with Filter view of the Report Manager dashboard, click the edit icon beside the report that you want to edit.

The Edit Scheduled Report dialog opens.



2 Make your changes (see "Supplied Report Templates" on page 152 to create a report using the report template list. You have the option to leave the report values as is or tailor the report by specifying the input values according to your business requirements.

3 Click **Save** to save your changes.

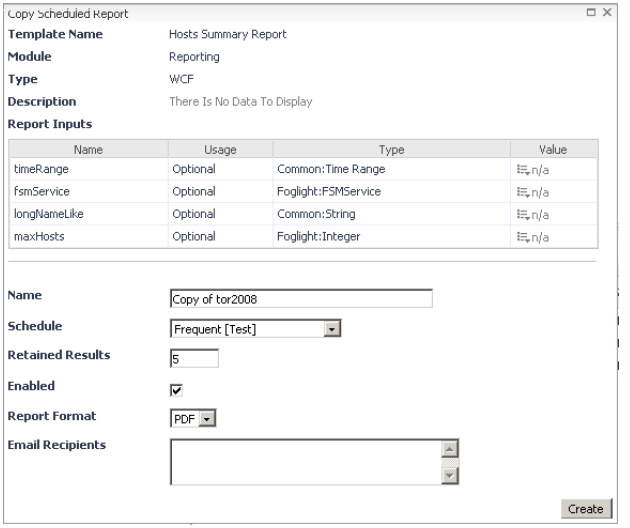
Copying a Scheduled Report

You can create a new scheduled report by copying an existing one and changing one or more of the parameters.

To copy a scheduled report:

1 In the Scheduled Reports with Filter view of the Report Manager dashboard, click the copy icon beside the report that you want to edit.

The Copy Scheduled Report dialog box opens.



2 Make your changes (see "Supplied Report Templates" on page 152 for details about the parameters).

3 Click **Create** to create a copy of the report.

Disabling/Enabling a Scheduled Report

When a scheduled report is created, it is enabled by default. You can disable a report, which means that it will not run at the scheduled time until it is enabled again.

To disable a scheduled report:

1 In the Scheduled Reports with Filter view of the Report Manager dashboard, click the check box(es) beside the report(s) that you want to disable.

2 Click **Manage Scheduled Reports**.

3 In the popup, click **Disable**.

In the Disabled column, the value changes from false to true.

To enable a disabled report, click **Enable** in the popup menu. The value in the Disabled column changes to false.

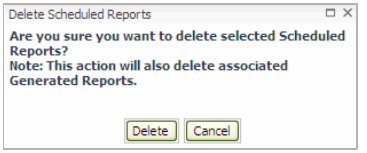
Deleting a Scheduled Report

When you delete a scheduled report, any generated reports that are associated with it are also deleted.

To delete a scheduled report:

1. In the Scheduled Reports with Filter view of the Report Manager dashboard, select the check box(es) beside the report(s) that you want to delete.
2. Click **Manage** > **Delete**..
3. In the popup menu, click **Delete**.

   A dialog prompts you to confirm the deletion.


Delete Scheduled Reports
Are you sure you want to delete selected Scheduled Reports?
Note: This action will also delete associated Generated Reports.
Delete
Cancel

4. Click **Delete**.

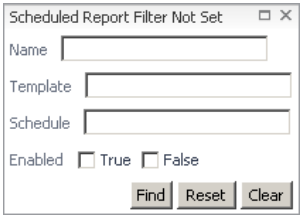
   The report is removed from the list of scheduled reports and all generated reports associated with it are removed from the list of generated reports.

Applying a Filter to Scheduled Reports

Creating a filter on scheduled reports helps you find reports based on criteria such as the report name, template, schedule or if the report was enabled.

To apply a filter to a report:

1. In the navigation panel, under **Dashboards**, click **Reports** > **Report Manager**.
2. In the Scheduled Reports view, click **Scheduled Report Filter Not Set**.



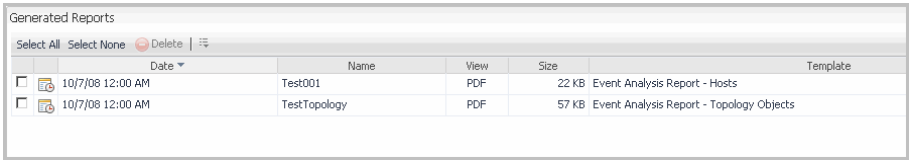
3 Enter the criteria for the filter based on criteria such as a report name, template, schedule (such as “day” for end of day reports), or enabled (True or False).

4 Click **Find** to output the reports that match the filter condition.

5 If you want to apply another filter, click **Clear** and repeat steps 2 to 3.

Managing Generated Reports

Reports that have generated appear in the Generated reports view in both the Reports dashboard and Report Manager dashboard. The Generated reports view contains reports that were generated when clicking **Run Report** and **Schedule Report** icons.



Viewing a Generated Report

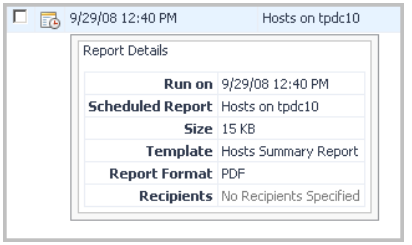
As a convenient way of visualizing the data, you can view report details or reports can be output to a PDF on a ongoing basis. Operators can view and output a generated report in the Reports dashboard. Advanced operators can access the Report Manager dashboard to view report details or produce a PDF output of a generated report.

To view PDF reports, Adobe Acrobat Reader version 7.0.9 or later is preferred.

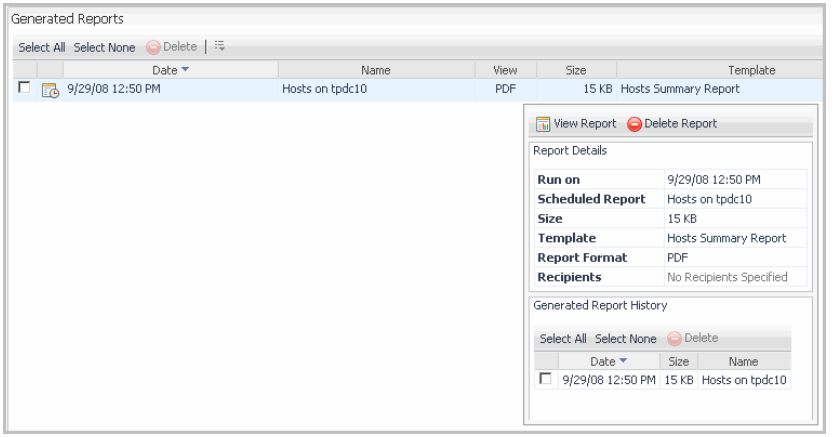
To view a report that has been generated:

1 In the navigation panel, under **Dashboards**, click **Reports** > **Report Manager**. If you do not have access to the Report Manager dashboard, click **Reports** > **Reports**.

- To view details of a generated report, hover over **Report Details** or **PDF**.

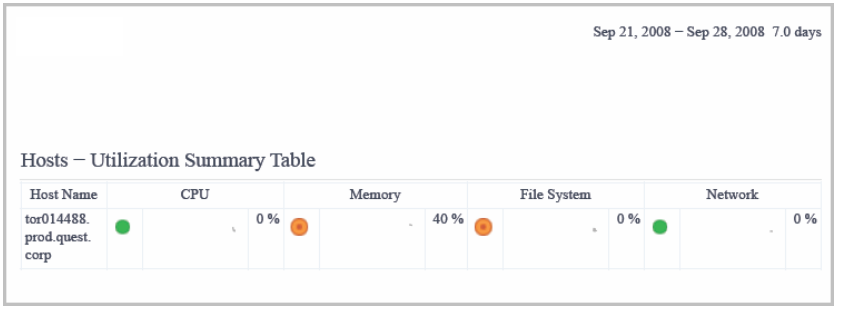


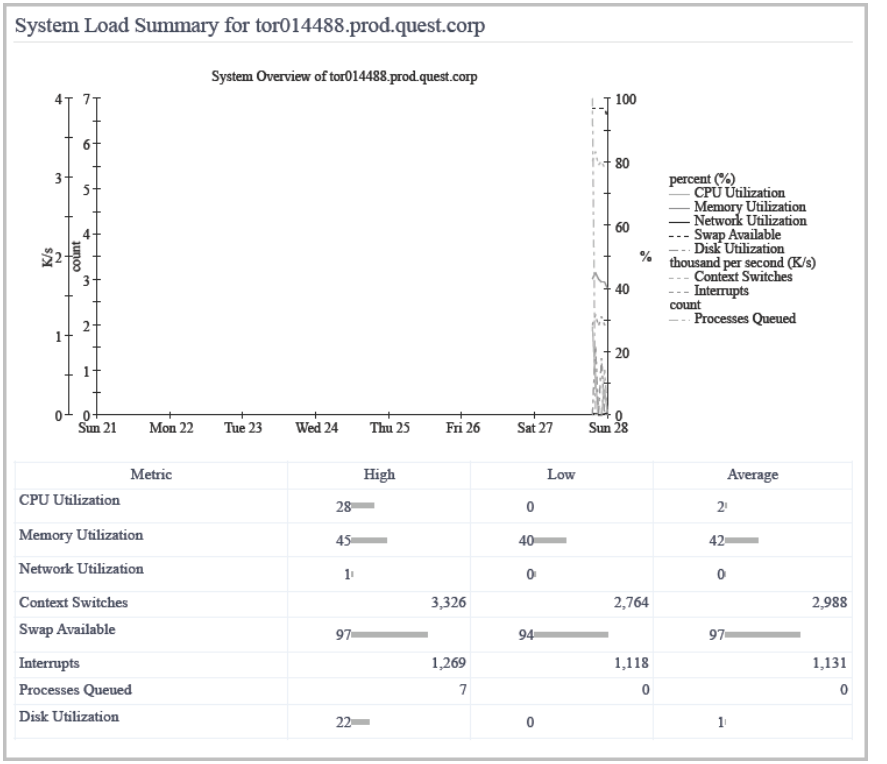
2 To view the PDF output of the report, click the PDF link next to the report.


Generated Reports
Select All Select None Delete
Date Name View Size Template
9/29/08 12:50 PM Hosts on tpdc10 PDF 15 KB Hosts Summary Report
View Report Delete Report
Report Details
Run on 9/29/08 12:50 PM
Scheduled Report Hosts on tpdc10
Size 15 KB
Template Hosts Summary Report
Report Format PDF
Recipients No Recipients Specified
Generated Report History
Select All Select None Delete
Date Size Name
9/29/08 12:50 PM 15 KB Hosts on tpdc10

3 Click **View Report**.

The PDF output of the report is displayed.


Sep 21, 2008 – Sep 28, 2008 7.0 days
Hosts – Utilization Summary Table
Host Name CPU Memory File System Network
tor014488.prod.quest.corp 0 % 40 % 0 % 0 %

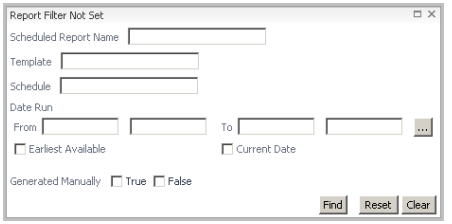


Applying a Filter to Generated Reports

Creating a filter on a generated report helps you find reports based on criteria such as the report name, template, schedule or the date range for which the report was run.

To apply a filter to a generated report:

1. In the navigation panel, under **Dashboards**, click **Reports** > **Report Manager**. If you do not have access to the Report Manager dashboard, in the navigation panel, under **Dashboards**, click **Reports** > **Reports**.
2. In the Generated Reports view, click **Report Filter Not Set**.
3. In the Report Filter Not Set dialog box, enter the criteria for the filter such as report name, template, schedule (such as “day” for end of day reports), or specify a time range for the report on the **Date Run** fields.



- If you select the **Earliest Available** check box, enter the period end date in the **To** fields.
- If you select the **Current Date** check box, enter the start date in the **From** fields.

4 To have the report filter generate manually, select the **True** check box.

5 Click **Find** to output the reports that match the filter condition.

6 If you want to apply another filter, click **Clear** and repeat steps 2 to 5.

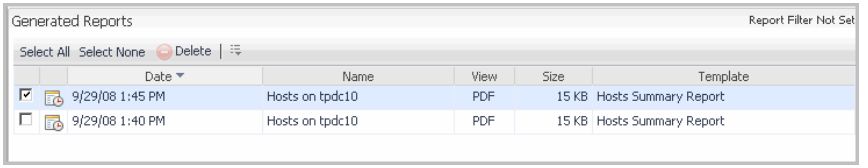
Deleting a Generated Report

To delete a generated report:

1 In the navigation panel under **Dashboards**, click **Reports** > **Report Manager**. If you do not have access to the Report Manager, in the navigation panel, under **Dashboards**, click **Reports** > **Reports**.

2 In the Generated Reports view, click the check box beside the report(s) that you want to delete.

3 For generated reports, click **Delete** from the menu.



A dialog box asks you to confirm the deletion.

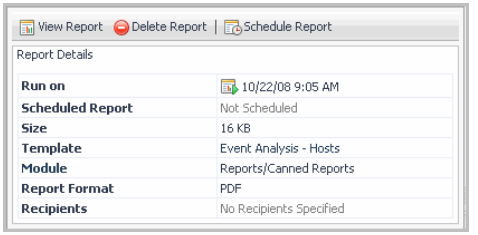
4 Click **Delete** to delete the report from the list of generated reports.

Scheduling a Generated Report

You can re-schedule or add another schedule to a report that has generated.

To schedule a generated report:

1. In the navigation panel under **Dashboards**, click **Reports** > **Report Manager**. If you do not have access to the Report Manager, in the navigation panel, under **Dashboards**, click **Reports** > **Reports**.
2. In the Generated Reports view, click the check box beside the report(s) that you want to schedule.
3. Click **PDF** for the generated report you want to schedule.
4. In the dialog box that appears, click **Schedule Report**:



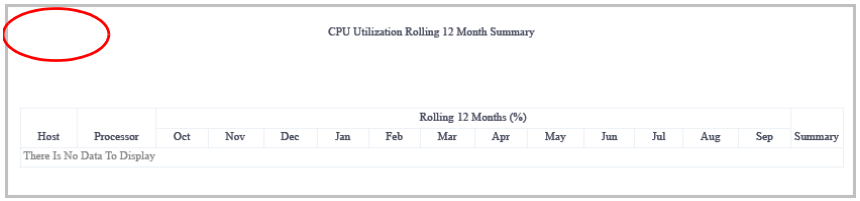
Now you can attach a new schedule or re-schedule the report. To schedule the report, see “Scheduling a Report” on page 182.

Adding Your Own Logo to Reports

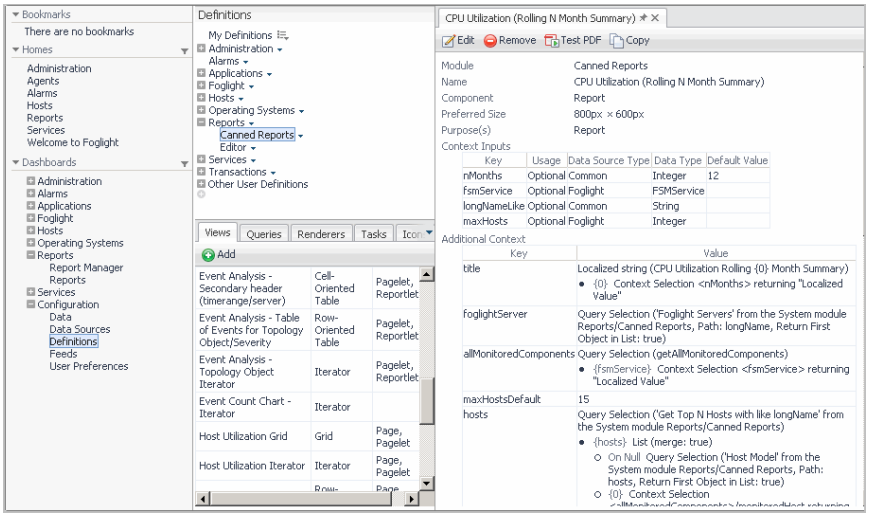
You can add your own company logo or a logo of your choice to replace the Vizioncore logo that appears on the top-left corner of reports. This section shows how you can replace the logo for out-of-the-box, pre-defined reports.

To add your own logo to out-of-the-box reports:

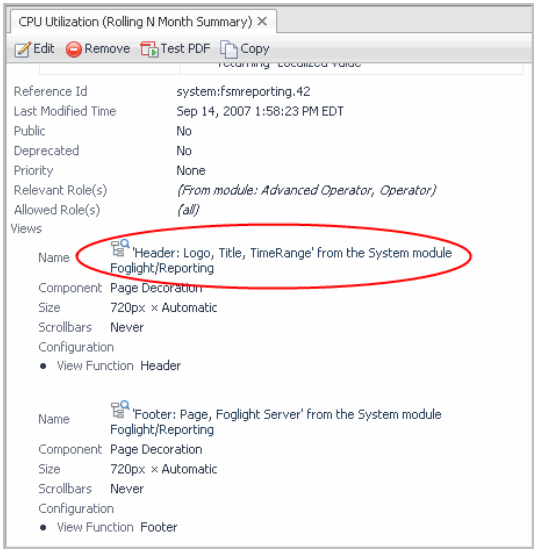
1. From the **Generated Reports** view of the **Reports** dashboard or **Report Manager** dashboard, click the PDF for the report to view it. As an example, you will change the default logo that appears on the out-of-the-box report: Rolling CPU Utilization.



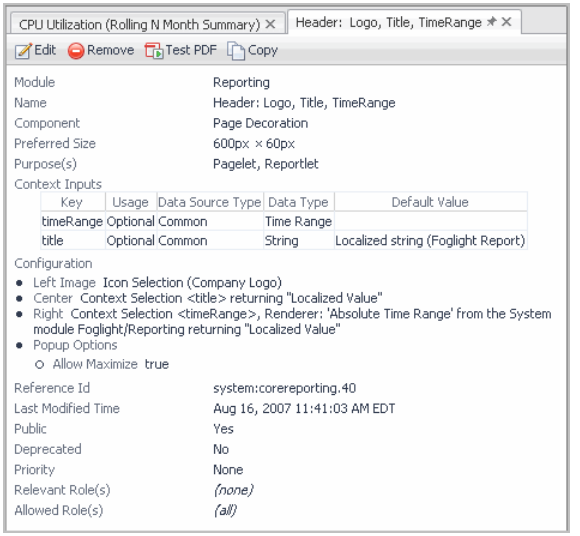
2 To edit the image on the top left of the report, click **Configuration** > **Definitions** on the left-hand panel. In the content page, expand **Reports** and click **Canned Reports**. From the list of Views in the lower left-hand pane, select CPU Utilization (Rolling N Month Summary).



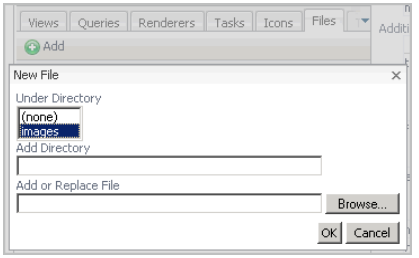
3 Scroll down on the right-hand pane for the CPU Utilization (Rolling N Month Summary) view and click the hyperlink for the embedded view Header: Logo, Title, Time Range.



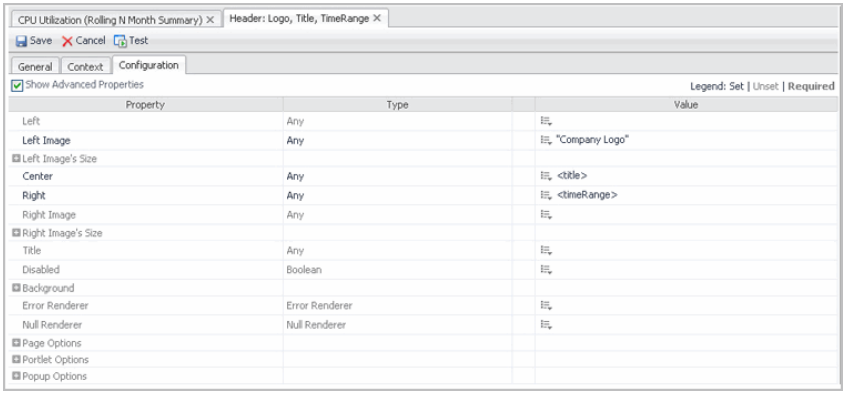
The Header Logo view opens.


CPU Utilization (Rolling N Month Summary)
Header: Logo, Title, TimeRange
Edit
Remove
Test PDF
Copy
Module Reporting
Name Header: Logo, Title, TimeRange
Component Page Decoration
Preferred Size 600px × 60px
Purpose(s) Pagelet, Reportlet
Context Inputs
Key Usage Data Source Type Data Type Default Value
timeRange Optional Common Time Range
title Optional Common String Localized string (Foglight Report)
Configuration
Left Image Icon Selection (Company Logo)
Center Context Selection <title> returning "Localized Value"
Right Context Selection <timeRange>, Renderer: 'Absolute Time Range' from the System module Foglight/Reporting returning "Localized Value"
Popup Options
Allow Maximize true
Reference Id system:corereporting.40
Last Modified Time Aug 16, 2007 11:41:03 AM EDT
Public Yes
Deprecated No
Priority None
Relevant Role(s) (none)
Allowed Role(s) (all)

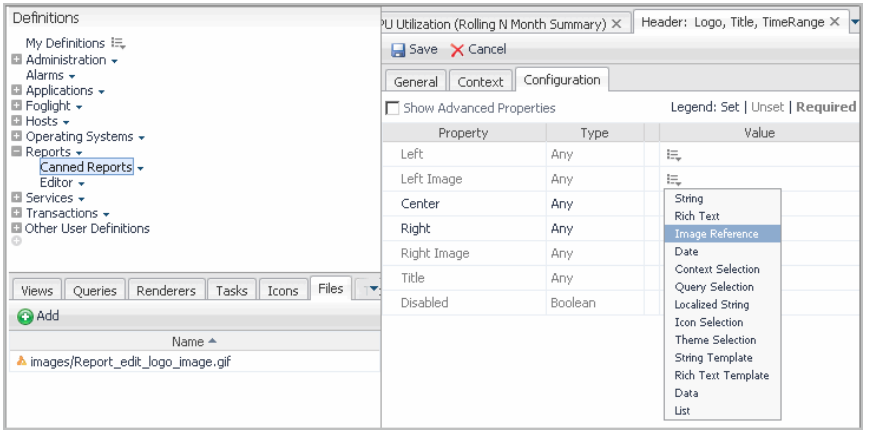
4 To upload the image you want to use for your reports, return to the lower left-hand pane and click the **Files** tab. Click **Add** and then click **Browse...** to upload the image.



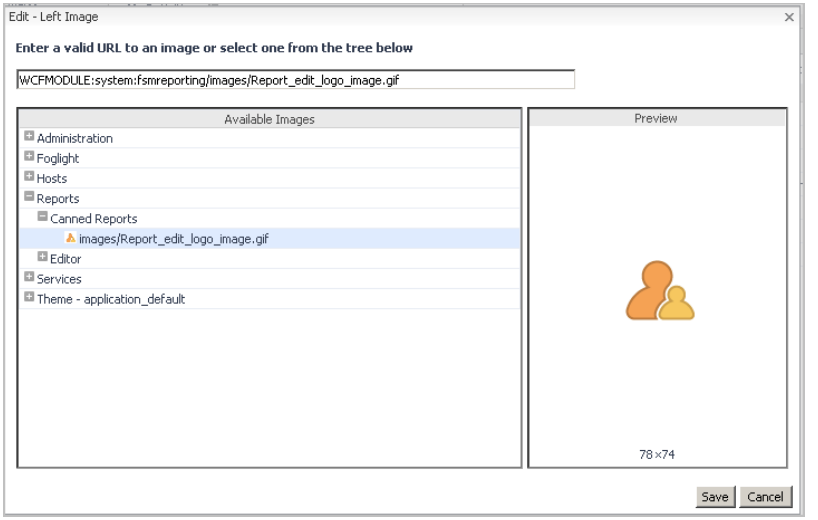
5 Click the **Header: Logo, Title, Time Range** tab. Click **Edit** and select the **Configuration** tab.



6 Select the drop-down icon next to the Value for the row Left Image. Select the Image Reference link.



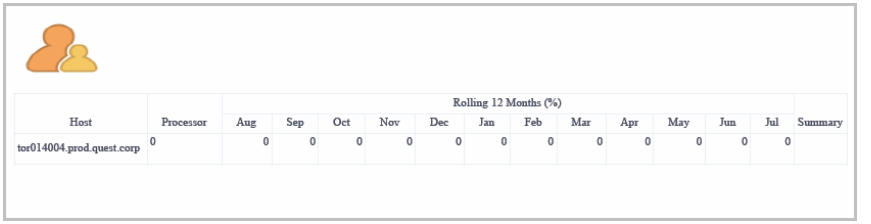
7 In the pop-up window, locate the image you just uploaded. It should be located under Reports > Canned Reports.



8 Click **Save** to keep this change and the Header: Logo, Title, Time Range view.

9 Select the tab showing CPU Utilization (Rolling N Month Summary) and click the **Test PDF** button.

The new report appears with the image you recently uploaded.



Host	Processor	Rolling 12 Months (%)												Summary
		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	
tor014004.prod.quest.corp	0	0	0	0	0	0	0	0	0	0	0	0	0	

Note Most of the reports share 1 or 2 header views. These headers can all be edited directly by expanding vFoglight > Reporting in the upper left-hand content pane of the Definitions view.

Working with Custom Reports

If you have the appropriate permissions, the Report Manager dashboard enables you to create a custom report at a more specific level than what is available on the set of supplied report templates. By creating your own report templates you can customize the content and presentation of a report.

Creating a Custom Report Template

The process of creating a custom report is similar to creating a dashboard. You can add any dashboard displayed in the user interface to the list of reports in the Report Manager or Report dashboards. Custom reports that you create will appear under My Dashboards in the navigation panel. They also appear in the Report Manager dashboard as a report template as soon as the report is created, and you can schedule the report.

To create a custom report:

1. In the navigation panel under **Dashboards**, click **Reports** > **Report Manager**. If you do not have access to the Report Manager, in the navigation panel, under **Dashboards**, click **Reports** > **Reports**.

2. To create a custom report, click the **Create Report** icon on the Reports dashboard or Report Manager dashboard or click **Create Report...** in the action panel.

   The Create Report dialog box opens.

3. Type a unique name for the report in the **Name** box. This is the only information required to create a new report.

   Tip Since custom reports are listed under My Dashboards in the navigation panel, you may want to choose a name that indicates that this is a report.

4. To set access to this report, click the edit icon beside **Relevant Role(s)** and **Allowed Role(s)** and select the role(s) to control which users can access the

report. For example, choosing "Operator" publishes your dashboard to everyone with the Operator role.

- **Relevant Role**—this option is only valid for super users who may have multiple roles. For example, a Java administrator who also has an operator role can choose the Cartridge Developer role to restrict the Operator role from accessing the report.
- **Allowed Role**—determines which user role is allowed to see the dashboard.

5 You can enter a description of the report in the **Context Help** box. This text appears in a tooltip when you hover over the report name in the navigation panel.

6 Click **OK** to save your report.

Two additional tabs (**Views** and **Data**) appear at the top of the action panel.

7 Select the **Views** or **Data** tab and locate the views or portlets that you want to add to your report. You can add both types of information to the same report. For information on creating and editing charts, see “Creating a Metrics Chart” on page 66.

8 To add parameterized inputs to include in your report, click the **Data** tab. A parameterized input allows you to define a view in which you can enter an input value for the object during report scheduling or testing the template.

- Drag an object into the Parameterized Input section.
- Drag an element from the Parameterized Input section onto the workspace to the left.

9 If you want to add text to the report, click and drag **Drag into report to add text** under Text in the action panel into the display area and type the text in the Entering User Text dialog box.

10 If you want to customize the header or footer of the report, click **Customize header** or **Customize footer** in the action panel. For details, see “Customizing the Header or Footer of a Custom Report” on page 203.

11 To divide the display area into one, two, or three columns, choose the number of columns in the action panel, under the **General** tab > Columns.

12 To see how the report will look when it is printed, click **Create PDF** in the action panel. Use the browser’s Back button to return to the report.

13 You have the option to schedule a report by clicking **Schedule Report** in the Reports dashboard or Reports Manager dashboard.

When you have finished creating a report, you do not need to save it. It is automatically available under My Dashboards in the navigation panel and also appears as a template

in the Report Manager, where it can be scheduled. To schedule the report, see “Scheduling a Report” on page 182. To run and generate a report without scheduling it, see “Running a Report” on page 180.

If you want to preview the report template without scheduling or generating the report, see “Adding a New Schedule” on page 186.

Creating a CSV Report

By generating a comma-separated value (CSV) report, you can import raw data for the contents of the report into Excel for charting and analysis.

Note You can also export metrics and generate a CSV report for a table or chart using the customizer. See “Exporting Data from Charts and Tables” on page 45.

When scheduling a custom report, you can choose to run a report as either a PDF report or a CSV report using the dropdown. See “Scheduling a Report” on page 182.

Note To generate a CSV report, the component type of the report must support CSV output and have meaningful results for the CSV report to generate. This applies to most chart and tables. For the full list of supported component types, see the *Web Component Guide*. The CSV option will not appear if the report is not capable of generating meaningful CSV data. Except for the pre-defined vFMS Database View (diagnostic) report, most default reports will not work as CSV reports.

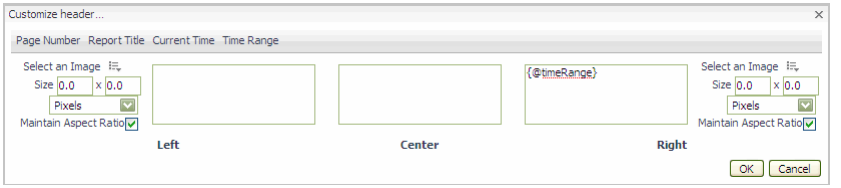
Customizing the Header or Footer of a Custom Report

You can add custom headers and footers to a custom report while you are creating it, or you can customize them at a later time.

To customize a header or footer:

1. Open the report from the Report Manager dashboard.
2. Click **Customize header** or **Customize footer** in the action panel.

   The Customize header (or Customize footer) dialog opens.



3 Click in a text box to add text, or click **Page Number**, **Report Title**, **Current Time**, or **Time Range** to add those variables to a box. You can add both text and variables to a box.

4 If you want to add your own graphic to the report, click the icon to the right of **Select an Image** to open the Select an Image dialog.

5 From the drop-down selector for the left image, navigate to an image that was previously uploaded and click **OK**. For more information on uploading an image, see “Adding Your Own Logo to Reports” on page 196.

The image appears in the Customize header dialog box.

6 Use the **Size** text fields and drop-down menu to adjust the size of the image.

7 If you leave the **Maintain Aspect Ratio** check box selected, you need to enter only one size value. Clear the check box if you want to change the ratio of the image.

8 Click **OK** to save your changes.

Printing a Custom Report

You can print a custom report in two ways (when it is in the display area):

- Click **Print** in the action panel and print the HTML page from the Print dialog. For more information, see “Printing Views” on page 80.
- Click **PDF** beside the report to print a gray color PDF output of the report from the PDF viewer. To print a colorful PDF report, you need to setup the PDF behavior in the User Preferences dashboard under the Themes setting. For more information, see “User Preferences” on page 24.

Deleting a Custom Report

You can delete any custom report that you have created. You may also be able to delete reports created by other users, depending on the roles that were assigned to them.

To delete a report:

1. Select the report that you want to delete from the list under **My Dashboards**.
2. Click **Delete this Report** in the Actions panel.

   A confirmation dialog box appears.
3. Click **Delete** to confirm the deletion.

   Deleting a report removes the report from the My Dashboards view and the Report Template list.

For details about how to work with charts in a dashboard, see "Working with Charts" on page 66.

Example: Create a Custom Host Report

In the following example, you will create a simple custom host report in which you will:

- Include parameterized input in which you can drag and drop views onto your report for the Windows_host object. During report scheduling, you can define what the report's input values will be at run-time.
- Include host elements (Virtual Memory metrics).
- Test the template.
- Schedule the report to generate hourly.

To create a custom host report:

1. In the navigation panel under **Dashboards**, click **Reports** > **Report Manager**. If you do not have access to the Report Manager, in the navigation panel, under **Dashboards**, click **Reports** > **Reports**.
2. Click the **Create Report** icon or click **Create Report** in the action panel.
3. In the dialog box that appears:
   a. Type a report **Name**.
   b. Select which roles are allowed to view this report.

      - Relevant Role—this option is only valid for SuperUsers who may have multiple roles. For example, a Java administrator who also has an operator role can choose the Cartridge Developer role to restrict the Operator role from accessing the report.
      - Allowed Role—select the user role that is allowed to view the report.

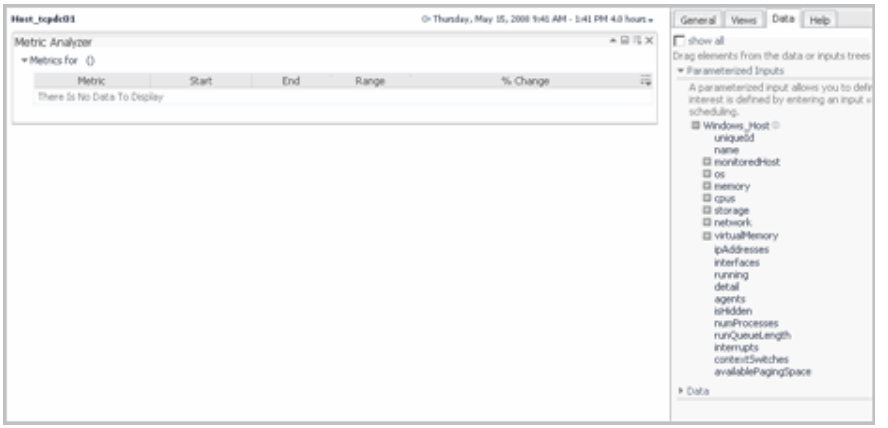
c To make text appear in a tooltip when you hover over the report name in the navigation panel, type a description of the report in the **Context Help** text box.

4 Click **OK**.

5 Click the **Data** tab.

6 Drag a Host object (Windows_Host) into the Parameterized Input section.

7 Drag host elements (i.e. VirtualMemory) from the data or input trees of the Parameterized Input section onto the display area to the left.

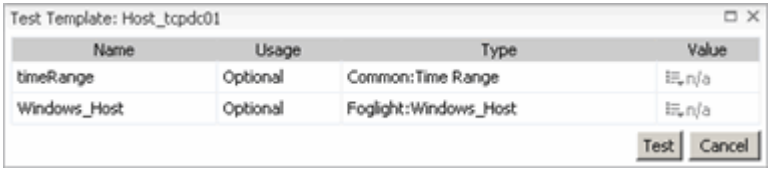


8 On the navigation panel, under **Dashboards**, click **Reports** > **Report Manager**. Notice that the report is added to the list of report templates.

9 From the Report Template, choose the report you created.

10 To test (i.e. preview) your report template before generating the report.

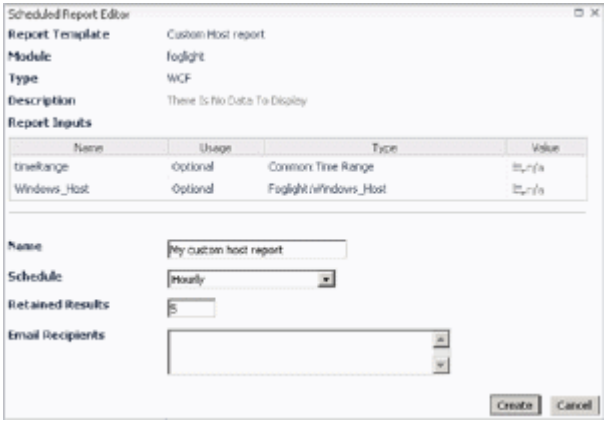
- Click the host report you just created.
- Click **Test**.
- In the Test dialog box, enter the context for the run-time values to include in your report. This step is optional.



- Click **Test**.

11 To generate your report hourly, you need to add a schedule.

- Select the report template you just created from the Report Template column.
- Click **Schedule Report** to open the Scheduled Report Editor.



12 Enter the report inputs for the time range and Windows host. This step is optional.

13 Click **Create** to schedule the report.

14 After an hour, the report appears under Generated Reports view.

15 Click **pdf** to view the generated report.

Example: Create an SLA Availability Report

In the following example workflow, you will create a report showing SLA availability data for the workweek from 8 am to 8 pm.

Reporting Parameters

The report will use the following criteria:

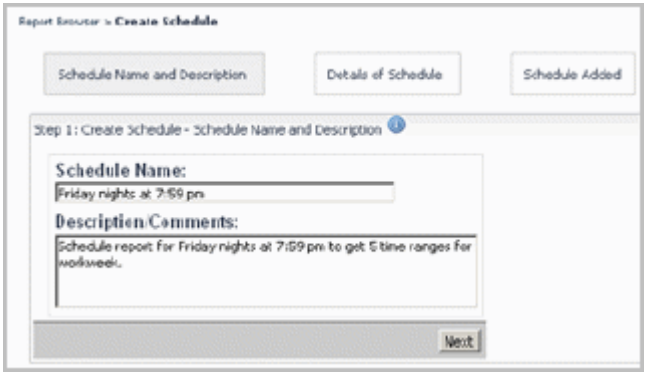
- Outages from 8 am to 8 pm
- Time plot with chart type “Stacking area”
- Include number of outages, outage duration and cause(s) of outage

Step 1: Add a New Schedule

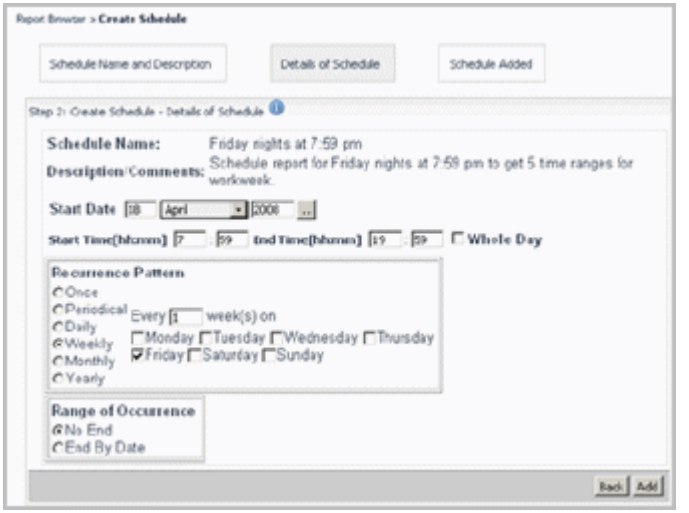
To get the 5 time ranges, schedule the report for Friday nights at 7:59 pm. You will need to create a new schedule since this is not part of the standard schedules in the Schedule drop-down.

To create a new schedule:

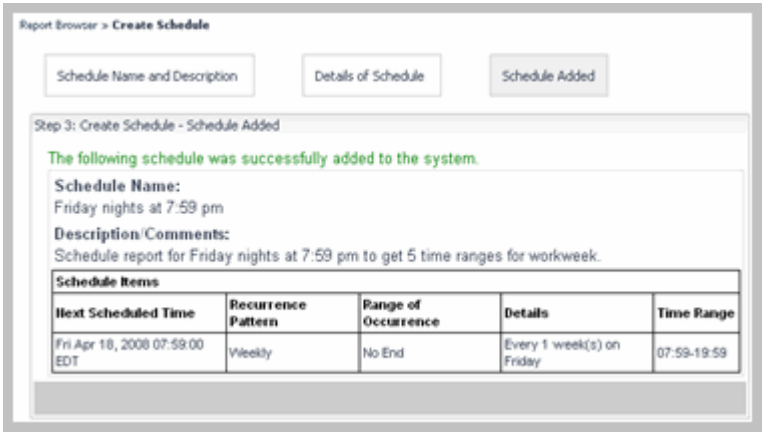
1. In the Report Manager dashboard, click **Add New Schedule**.
2. Create the schedule. Type a **Schedule Name** and **Description/Comments**.


Report Browser > Create Schedule
Schedule Name and Description
Details of Schedule
Schedule Added
Step 1: Create Schedule - Schedule Name and Description
Schedule Name:
Friday nights at 7:59 pm
Description/Comments:
Schedule report for Friday nights at 7:59 pm to get 5 time ranges for workweek.
Next

3. Click **Next**.
4. Add the schedule details.



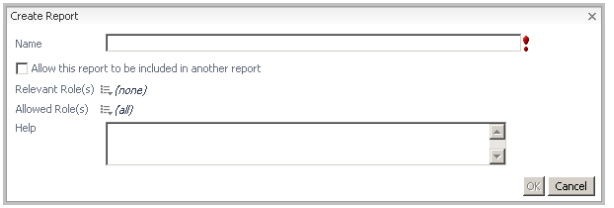
5. Click **Add**.
6. View the details of the schedule.



Step 2: Create the report

To create the report:

1. In the navigation panel under **Dashboards**, click **Reports** > **Report Manager**. If you do not have access to the Report Manager, in the navigation panel, under **Dashboards**, click **Reports** > **Reports**.
2. Click the **Create Report** icon or click **Create Report** in the action panel.
3. Type a report **Name**.
4. If you want to enable this report to be included in other reports, click the **Allow this report to be included in another report** checkbox.
5. Select which roles are allowed to view this report.
   - **Relevant Role**—this option is only valid for super users who may have multiple roles. For example, a Java administrator who also has an operator role. The Java administrator can choose the Cartridge Developer role to restrict the Operator role from accessing the report.
   - **Allowed Role**—select the user role that is allowed to view the report.

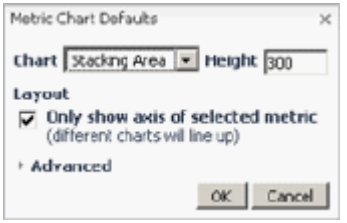


6 You can enter a description of the report in the **Context Help** text box. This text appears in a tooltip when you hover over the report name in the navigation panel.

7 Click **OK**.

8 Click **Set metric chart defaults**.

9 In the Chart drop-down choose **Stacking Area** and click **OK**.



10 Create two derived metrics for a specific FSMServiceLevelPolicy:

- Outage - every minute, if previously available and currently not, return 1. The sum of this metric over the period gives the number of outages.
- OutageTime - every minute, if unavailable return 60. The sum of this metric over the period gives the approximate outage duration.

11 Create Time Chunks query - the last 5 days in 12 hourly chunks.

Step 3: Generate the Report

To generate your report hourly, you need to add a schedule.

1 Select the report template you just created from the Report Template column.

2 Click **Schedule Report** to schedule the report.

3 Type a name for the scheduled report.

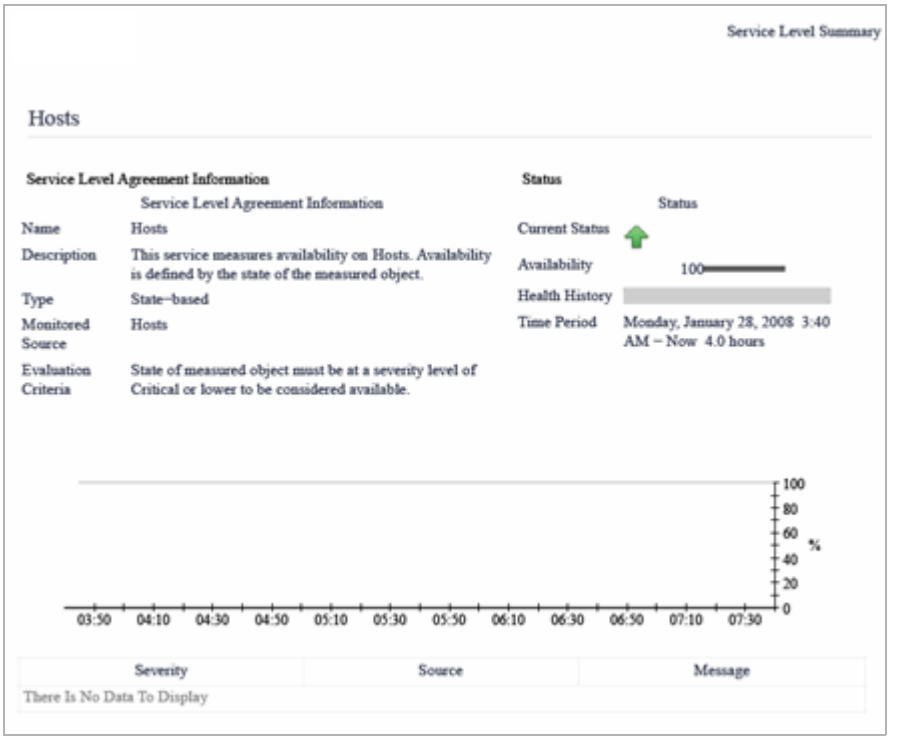
4 In the Schedule drop-down, select Friday nights at 7:59 pm.

5 Enter the report inputs.

6 Click **Create** to schedule the report.

7 Check that the report appears under Generated Reports with Filter on Friday after 8:00 pm.

8 Click **PDF** to view the generated report.



9

Working with Data and Data Sources

In vFoglight you can create custom views using the framework that is available in the Configuration module. This type of work is primarily focused on those users who are advanced dashboard designers.

This chapter contains the following sections:

Overview 214
Data Dashboard 214
Data Sources Dashboard 217

Overview

The dashboards listed under the Configuration module include the following:

- Data Dashboard
- Data Sources Dashboard
- Definitions
- User Preferences

The Definitions dashboard is where you create and edit views. For information about these functions, see the *Web Component Guide* and the *Web Component Tutorial*.

The options in the User Preferences page are described under “User Preferences” on page 24.

This section briefly describes the Data and Data Sources dashboards.

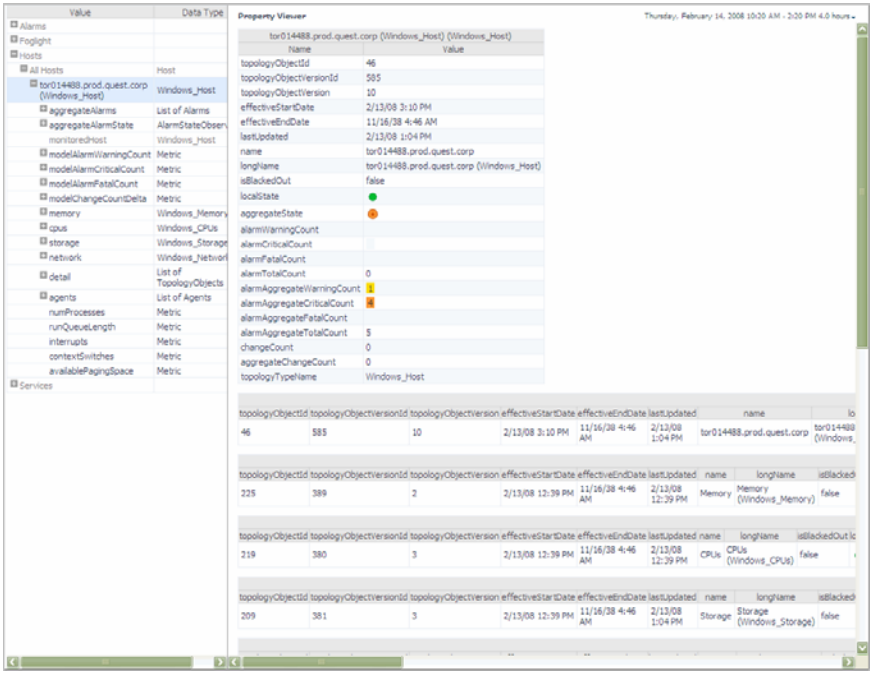
Data Dashboard

The Data dashboard is an advanced tool intended for use by dashboard designers and data modelers. It shows the underlying set of objects that are available in the system and how they are organized. This dashboard is useful for figuring out the paths used to define dashboard tooling queries, and for inspecting the underlying objects to ensure that the data is collected and transformed properly.

To display the Data dashboard:

- From the navigation panel, under **Dashboards**, click **Configuration** > **Data**.

  The Data dashboard appears.



You can expand the nodes in the left-hand pane and follow a path to find objects. For example, you can find a Host object by expanding the Hosts object, expanding All Hosts, then finding the Host of interest (as in the above screen).

The right-hand pane is a display area. You can choose from a number of views, which are listed under Views in the action panel. The most useful view for inspecting an object is the Property Viewer. The Property Viewer shows the raw object details — the property values and metrics.

Understanding Metrics and Observations

In general, vFoglight and the Web Component Framework are concerned with the collection of information over time. This collection is referred to as observations. The Data dashboard displays metrics and observations for a topology object.

An observation is a collection of a particular piece of data over time. An EnumObservation is the data collected by agents, which is a type of observation where the data being observed is a enumerated value. For example, the state of an object.

A metric is a type of observation that is concerned with numeric observations. For example, the CPU usage of a host.

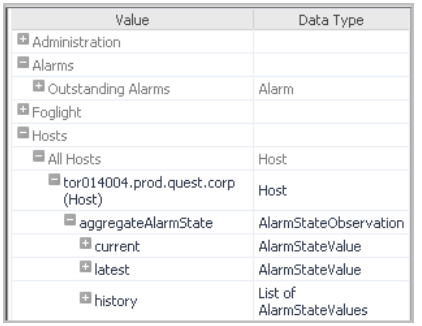
All observation objects have the following properties:

- **latest**—the value of the last recorded sample.
- **current**—the same as the latest value except if the latest value is considered stale (not fresh), the current value is considered null.
- **history**—contains a historical list of values for the selected time range.

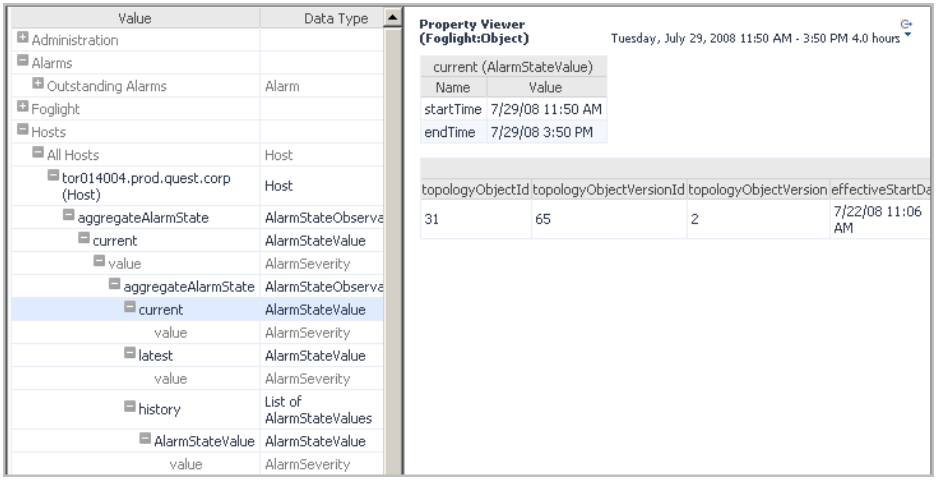
To view the current, latest, or history values for a topology object:

1 From the navigation panel, under **Dashboards**, click **Configuration** > **Data**.

2 In the Data dashboard, drill-down to the topology object to view the metric values:



3 Click on the metric to view more details about the topology objects in the Property Viewer. Each value entry for an observation has a **Start time**, **End time**, and **Value**.



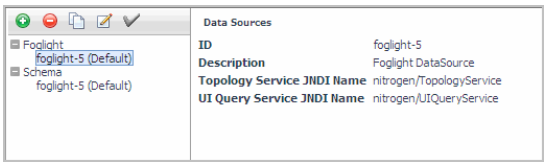
Data Sources Dashboard

The Data Sources dashboard is where you choose a data source for vFoglight. The default (and only current) option is the foglight-5 data source. Click a data source to display its ID, name, and topology and UI query service JNDI names.

To display the Data Sources dashboard:

- From the navigation panel, under **Dashboards**, click **Configuration** > **Data Sources.**

  The Data Sources dashboard appears.



The icons above the data sources allow you to add , delete , copy , and edit them, as well as set a default data source.

Caution If you click the Delete icon, the data source is removed without a confirmation dialog.

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